Spirent **TestCenter**™ **Virtual**

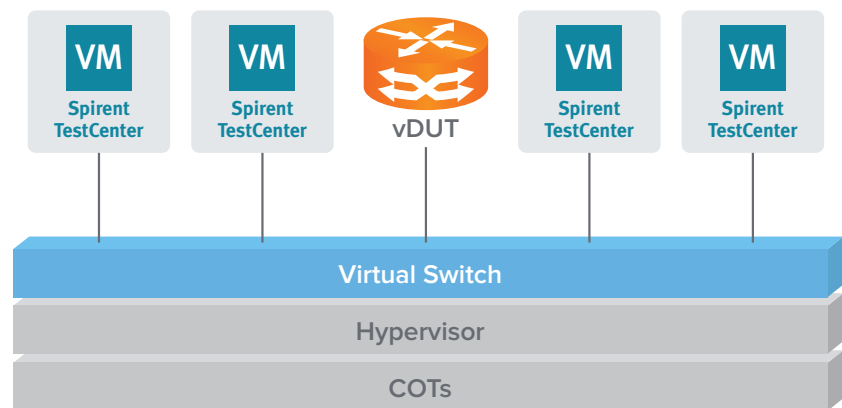## Accelerate SDN and NFV adoption with greater predictability

Features

- Layer 2–7 test and measurement capabilities for legacy and emerging SDN protocols

- Comprehensive emulation protocols available in virtual routing, switching, access, applications, mobile backhaul and multi-play bundles with real time analysis and reporting

- Deploy best in class cloud platforms: Test performance, availability, security and scale of, OpenStack, VMware vCloud, Cloudstack, Amazon Web Services and other cloud services

Benefits

- Maximize test coverage with 100% flexible and portable test cases from hardware to virtual

- Accelerate innovation by seamlessly migrate to virtualized datacenter or cloud deployments with lowest possible risk

- Validate SDN and NFV migrations by characterizing the performance of virtual appliances in a multitude of real-world scenarios

Spirent TestCenter™ **Virtual** is the industry-leading solution that optimizes the performance of new cloud-enabled network services and innovations like SDN and NFV. TestCenter Virtual creates testing topologies to run on both control plane and data plane to stress simulated, virtualized network functions. Service Providers, Data Center Operators as well as NFV vendors can now predict, resolve, and monitor both physical and virtual functions impacting the performance.

Network function virtualization validation

Network Functions Virtualization (NFV) is an industry term used to denote the capability of delivering network functions through virtualized compute infrastructure. General purpose computing hardware coupled with NFV software can be leveraged to reduce capital expenditures for dedicated networking hardware by leveraging the diminishing costs and increasing scale of multi-core processors combined with high-density network adaptors. While NFV offers many benefits to network and data center operators, there is an abundance of uncertainty in selecting technologies, configuring infrastructure, optimizing performance and hardening for security. The flexibility NFV promises also increases the number of permutations that must be considered in a nearly exponential fashion. One not only has to test the virtual network functions but also the virtual infrastructure on which the virtual machines are hosted. The functionality and performance of the virtual network function are deeply dependent on the predictability of the NFV infrastructure.

Spirent TestCenter Virtual delivers high rate layer 2-7 functional and performance testing of virtual and physical network resources by generating simultaneous LAN unicast, multicast, and VLAN traffic along with SAN IO as well as, stateful application protocols such as HTTP and FTP.

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Continuous cloud validation

DevOps and continuous integration enables faster time to market and improves SLAs for organizations that adopt Continuous Integration and Delivery mechanism. In an increasingly competitive global market, companies must deliver high quality products and services to market in a cost effective and timely manner. Organizations require automated and scalable solutions to improve their ability to build, test, and deploy software.

Spirent TestCenter Virtual seamlessly integrates with all known cloud management systems like VMware, OpenStack etc. It also has rich API support such that the virtual machine is programmable and can be configured and managed in a 3rd party orchestration framework. API supports all capabilities available in the Spirent TestCenter GUI via the API.

Physical to virtual migration

As physical network functions are being transformed to be delivered in software form factor, the expectation in terms of the functionality, performance and predictability remains significantly high. All the investment that was made over the years in testing carrier grade network functions like routers, switches, firewalls etc is expected to be ported over in the virtual world.

Spirent TestCenter Virtual delivers a unified testing architecture that ensures full compatibility with any Spirent TestCenter interface including the award winning Spirent Hypermetrics for accurate, high performance FPGA hardware generated network traffic. It enables porting of prior investment in test cases for physical to virtual. It also enables the creation of a virtual test lab to speed up development, reduce the total cost of ownership (TCO) of testing resources and optimize infrastructure utilization by testing in a multitude of real-world scenarios of software prior to hardware availability.

Technical specifications	
Supported hypervisors	VMWare ESXi 4.0, 4.1, 5.3, 5.5 QEMU/KVM on Fedora 20, CentOS 6.5, Ubuntu 12.04, Ubuntu 14.04 Oracle VM Baremetal
Packaging	Software is available in OVA, qcow2, rpm and deb formats
Orchestration	VMware, Openstack
VM specification	**CPU**—1 to 3 virtual CPUs (depending on the performance requirement) **Memory**—1 to 4 GB (depending on the performance requirement) **Network interfaces**—1 management and upto 9 test ports **Port Speed**—100 M, 1 G, 10 G
Service provider	BGP, OSPF, IS-IS, RIP, BFD, PIM, 6PE/6VPE, MPLS-TP, LDP, BGP VPLS, LDP VPLS, MPLS IP VPN, RSVP-TE, Multicast VPN, LSP-Ping, MPLS-TP Y1731, EOAM, Segment Routing, PCEP, Link-OAM, Sync E, TWAMP, ANCP, DHCP, DHCPv6/PD, L2TP, PPPoX, IGMP/MLD, 802.1x, 6RD, Dual Stack Lite
Cloud and datacenter	MAC,VLAN, ACL, DSCP, LISP, DCBX, OTV, TRILL, FCoE, LACP, LLDP, DCBX, SPB, STP, VEPA, VIC, VxLAN, EVPN, Openflow
Applications and security	HTTP, FTP, Video, Raw TCP, XMPP, CIFS, Storage IO, SIP, Bit Torrent, Exchange MAPI, Gnutella, Gtalk, LDAP, MSN, MySQL, NFS, Oracle, Remote Desktop, Skype, SQL, Yahoo, Absolute XSS, Ace FTP DoS, Beagle AA, Beautifier RFI, BEA Weblogic XSS, BREW Blogger, Bus Mail, Cesar FTP BOF, CFNetwork DoS, Code Red II
Automation	TCL, Python, Perl, Java, C, C#, Ruby, REST

Ordering information	
Spirent TestCenter Virtual - Performance kit (comes with 4, 16, 32, 64, and 128 ports)	KIT-1050
Spirent TestCenter Virtual - Functional kit (comes with 4, 16, 32, 64, and 128 ports)	KIT-1051