

Spirent Communications

Spirent TestCenter Software and Hardware Release Notes 5.19

This release notes document is for the latest Spirent TestCenter software base packages, test packages, and hardware.

Note: The Known Issues list for products listed here is available as a separate document on the Spirent Knowledge Base portal. Sign in to Spirent [Customer Service Center](#) with your login credentials and search for FAQ17352.

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New Products and Features

The new products and features are described in detail in **Spirent TestCenter Software and Hardware New Features** – the document is included as a Related Resource on the Customer Service Center (CSC) *Downloads* page. The document includes detailed descriptions of each new feature and helpful GUI screen captures.

Hardware

400G platform

- Additional NRZ speeds of 200G, 25G and 10G on the following models
 - Test modules: PX3-400GS-T2, DX3-400GS-T2, PX3-QSFP-DD-2 and DX3-QSFP-DD-2
 - Appliances: PX3-QSFP-DD-8 and DX3-QSFP-DD-8
- **Note:** AN/LT are not yet supported on these NRZ speeds
- Extend XStream mode feature to 4x100G mode on PX3 400G appliances
- Spirent XStream Mode: 100G Enhanced Data Performance and Protocol Scale

100G platform

- PX3-QSFP28-12: Routing Scaling Enhancement for LAG
 - Added MR-VFD support
 - Added Raw Stream support

Software

Protocols

- VxLAN EVPN Overlay Wizard
 - Enhancement: automatically select VNI type in the EVPN IP Prefix Route to match the VNI Type selected for traffic to reduce the chance of configuration errors.
- ISIS LSP Generator Wizard
 - Add support for SRv6
 - With SRv6, options to Enable Flex Algorithm and configure Algorithm List are available
- Added BGP-LS topology viewer
 - Only supports up to 20 nodes/routers and 100 links in the topology
 - Only supported in Chrome web browser
- Added support for PPP (Point-to-Point Protocol) LCP (Link Control Protocol) vendor specific packets and options.
- Added support for 4096 device blocks per port group for emulated IPv4/IPv6/Dual Stack PPPoE clients.

Automotive

- Added VLAN encapsulation support for PTP and gPTP protocols
 - Maximum of 3 VLAN headers
 - Users can configure VLAN ID, VLAN Priority, and VLAN Type
- Added support for PTP time synchronization in 5G fronthaul
 - Requires BPK-1155 in addition to O-RAN and eCPRI licenses

Spirent TestCenter AION Licensing

- New Spirent AION hardware perpetual licensing model for bandwidth, protocol scale, software bundle entitlements, and on the DX and FX-class hardware modules.

Spirent TestCenter IQ

- Added High Resolution Port Sampling view
 - To support granular analysis of real-time result
- Added chart views to display high resolution sampling data

RFC 8239 Data Center Benchmarking

- Add Microburst test
 - To find the maximum packet burst the DUT can withstand under different configurations.

Enhanced L4-7

- Enhancement to Raw TCP support
 - Test Data Size and Traffic Direction parameters are supported in Raw TCP Settings Dialog

Notification – Product Alerts

Products Affected:

Various Test Modules

Issue:

Spirent has had to update various modules due to “end of life” components. This has caused the supported release versions to change on these modules to newer releases. This can cause modules not to be displayed in the Spirent TestCenter GUI in older releases.

Solution:

Refer to Knowledge Base Article [FAQ11712](#) to verify the new release version required for each test module.

Products Affected:

- PX3-QSFP-DD-2 w/ NRZ option
- PX3-QSFP-DD-8 w/ NRZ option
- PX3-400GS-T2
- DX3-QSFP-DD-2 w/ NRZ option
- DX3-QSFP-DD-8 w/ NRZ option
- DX3-400GS-T2

Issue:

MANTIS-178 - NRZ mode with Auto-Negotiation/Link Training feature is not support in this release. All PAM4 speeds continue to support the Auto-Negotiation/Link Training feature.

Solution:

NRZ mode Auto-Negotiation/Link Training feature will be supported in 5.20.

Products Affected:

- PX3-QSFP-DD-2 w/ NRZ option
- PX3-QSFP-DD-8 w/ NRZ option
- PX3-400GS-T2
- DX3-QSFP-DD-2 w/ NRZ option
- DX3-QSFP-DD-8 w/ NRZ option
- DX3-400GS-T2

Issue:

The 40G NRZ speed mode is Beta for the 5.19 release due to intermittent FCS errors. Only 10G, 25G, 50G, 100G & 200G are the supported NRZ speed modes. All PAM4 speeds modes continue to be supported.

Solution:

40G NRZ speed mode will be supported in 5.20.

Products Affected:

- C50-KIT-11AX-1-V2
- C50-KIT-11AX-3
- N4U / N11U / N12U chassis with MX2-11AX-2-V2 test module

Issue:

Upgrade failure is seen while upgrading these modules from an older release (< 5.07) to a newer release (>=5.08).

Solution:

Due the firmware changes in the appliance's WLAN submodule in release 5.07, the appliance firmware upgrade process has changed. You cannot upgrade directly from a release <= 5.06 to a newer release which is >= 5.08. You must first upgrade to release 5.07 before proceeding to upgrade to a release >= 5.08. There is no limitation on downgrading from a newer release to an older release.

Spirent Telemetry Service

The Telemetry service allows Spirent to perform analytics of anonymous usage data in order to improve our products and services. From release 4.86 forward, telemetry will be enabled by default on all Spirent LabServer and Spirent TestCenter installations, unless users choose to opt-out.

Users are prompted for their opt-out preference via the Spirent TestCenter Windows installer and shell-based Linux installers.

Telemetry is automatically enabled or disabled on Spirent LabServer test sessions based on the opt-out preference of the client that initiated the session. This means that some users can create test sessions with telemetry enabled while others might have it disabled. However, since REST API users will not be using an automation client provided by Spirent, they can specify their opt-out preference via a new optional **AllowAnalytics** argument in the `CSTestSessionConnect` command:

```
stc::perform CSTestSessionConnect -Host $labServerIp -CreateNewTestSession TRUE -  
AllowAnalytics FALSE
```

Spirent LabServer administrators who prefer to disable telemetry for all users, regardless of their client opt-out preferences, can do so by setting the `ALLOW_SPIRENT_ANALYTICS` environment variable to **false**. For customers using our Virtual LabServer, this can be accomplished by logging in to the Spirent LabServer admin console, selecting **Configure Container** and then using the **Set environment variables** option:

```
[1] Configure System  
[2] Configure Container  
[3] System Information  
[4] System Status  
[5] View Journal  
[6] Shell Access  
[7] Exit  
(waiting 30 seconds) Select option [7]: 2
```

```
>>>>> Container configuration <<<<<<
```

```
[1] Load image from registry  
[2] Load image from file  
[3] Reset container  
[4] Set environment variables  
[5] Set License Server  
[6] Cancel
```

Select option: 4

>>>> Set environment variables <<<<<

Env 1: ALLOW_SPIRENT_ANALYTICS=false

Env 2:

ALLOW_SPIRENT_ANALYTICS=false

Is this correct? (y/n): y

>>>> Container configuration <<<<<

[1] Load image from registry

[2] Load image from file

[3] Reset container

[4] Set environment variables

[5] Set License Server

[6] Cancel

[7] Apply change and start new container

Select option: 7

----- APPLYING CHANGES -----

Running docker image: fa59f501973c

Setting the environment variable will force a restart of the container from the current image and all existing test sessions will be torn down. To see which environment variables are set, the user can log in to the admin console, select **Shell Access** from the Admin menu and then type **echo**.

Product Obsolescence

The following **test modules** are not supported in this Spirent TestCenter release:

CM-10G-S2	Hypermetrics CM 10GBE SFP+ 2-Ports
CM-1G-D12	Hypermetrics CM 10/100/1000 Dual Media 12-Ports
CM-1G-D4	Hypermetrics CM 10/100/1000 Dual Media 4-Ports
CPR-1001A	1000 Series: 8 Port 10/100 Copper RJ45 Test Module
CPR-1001B	1000 Series: 8 Port 10/100 Copper RJ45 Test Module
CPR-2001A	2000 Series: 8 Port 10/100 Copper RJ45 Test Module
CPR-2001B	2000 Series: 8 Port 10/100 Copper RJ45 Test Module
CPR-2002A	2000 Series: 8 Port 10/100 Copper RJ45 Test Module
CPR-2002B	2000 Series: 8 Port 10/100 Copper RJ45 Test Module
CV-10G-S2	Hypermetrics CV 10GBE SFP+ 2-Ports
CV-10G-S8	Hypermetrics CV 10GBE SFP+ 8-Ports
CV-8GFC-S2	Hypermetrics CV 2/4/8G Fibre Channel SFP+ 2-Port
DX-10G-S32	Hypermetrics DX 10GBE SFP+ 32 Ports
DX-40G-F1	Hypermetrics DX 40GBE ONLY CFP 1-Port
DX-40G-F2	Hypermetrics DX 40GBE ONLY CFP 2-Ports
DX-100G-F1	Hypermetrics DX 40/100GBE CFP 1-Port
DX-100G-F2	Hypermetrics DX 40/100GBE CFP 2-Ports
DX-100GO-F1	Hypermetrics DX 100GBE ONLY CFP 1- Port
DX-100GO-F2	Hypermetrics DX 100GBE ONLY CFP 2- Port
EDM-1001A	1000 Series: 4 Port 1G Dual Media Test Module
EDM-1001B	1000 Series: 4 Port 1G Dual Media Test Module
EDM-1002A	1000 Series: 10/100/1000 Dual Media, 2 Port
EDM-1002B	1000 Series: 10/100/1000 Dual Media, 2 Port
EDM-1003A	1000 Series: 10/100/1000 Dual Media, 12 Port

EDM-1003B	1000 Series: 10/100/1000 Dual Media, 12 Port
EDM-2001A	2000 Series: 4 Port 1G Dual Media Test Module
EDM-2001B	2000 Series: 4 Port 1G Dual Media Test Module
EDM-2002A	2000 Series: 10/100/1000 Dual Media, 2 Port
EDM-2002B	2000 Series: 10/100/1000 Dual Media, 2 Port
EDM-2003A	2000 Series: 10/100/1000 Dual Media 12 Port
EDM-2003B	2000 Series: 10/100/1000 Dual Media, 12 Port
FBR-1001A	1000 Series: 8 Port 10/100 Fiber SFP Test Module
FBR-1001B	1000 Series: 8 Port 10/100 Fiber SFP Test Module
FBR-2001A	2000 Series: 8 Port 10/100 Fiber SFP Test Module
FBR-2001B	2000 Series: 8 Port 10/100 Fiber SFP Test Module
FX-100G-F1	Hypermetrics FX 40/100GBE CFP 1- Port
FX-100G-F2	Hypermetrics FX 40/100GBE CFP 2- Ports
FX-100GO-F1	Hypermetrics FX 100GBE ONLY CFP 1- Port
FX-100GO-F2	Hypermetrics FX 100GBE ONLY CFP 2- Ports
FX-100G-P2	FX 100GBE ONLY CFP2 - 2-Ports Single Slot
FX-40G-F1	Hypermetrics FX 40GBE ONLY CFP 1-Port
FX-40G-F2	Hypermetrics FX 40GBE ONLY CFP 2-Ports
GBT-4001A	10GBASE-T Personality Board, 1-Port
MSA-1001A	1000 Series: 10GBE Multiple-MSA Host Module, 2- Ports
MSA-1001B	1000 Series: 10GBE Multiple -MSA Host Module, 2- Ports
MSA-2001A	2000 Series: 10GBE Multiple -MSA Host Module, 2- Ports
MSA-2001B	2000 Series: 10GBE Multiple -MSA Host Module, 2- Ports
MX-100GO-F2	Hypermetrics MX 100GBE ONLY CFP 2-Ports
MX-100G-F1	Hypermetrics MX 40/100GBE CFP 1-Port
MX-100G-F2	Hypermetrics MX 40/100GBE CFP 2-Ports
MX-100GO-F1	Hypermetrics MX 100GBE ONLY CFP 1-Port

MX-100G-P2	Hypermetrics MX 100GBE ONLY CFP2 - 2-Ports Single Slot
MX-40G-F1	Hypermetrics MX 40GBE ONLY CFP 1-Port
MX-40G-F2	Hypermetrics MX 40GBE ONLY CFP 2-Ports
MXP-10G-S2	Hypermetrics MXP 10GBE SFP+ 2-Ports
MXP-10G-S4	Hypermetrics MXP 10GBE SFP+ 4-Ports
MXP-10G-S8	Hypermetrics MXP 10GBE SFP+ 8-Ports
NG-100G-F2	Hypermetrics NG 100G 40/100GBE CFP 2-Ports
UPY-2001A	2000 Series: 10G Host Module, 1- Port
UPY-2002A	2000 Series: Host Module, 2- Ports
WAN-2002A	2000 Series: 2.5G WAN Host Module, 2- Ports
WAN-2003A	2000 Series: 2 PORT 622 MB/S Host Module
XEN-4001A	XENPAK 10GBE LAN/WAN Personality Board, 1-Port
XFP-1001A	1000 Series: 1 Port 10G XFP Test Module
XFP-1001B	1000 Series: 1 Port 10G XFP Test Module
XFP-2001A	2000 Series: 1 Port 10G XFP Test Module
XFP-2001B	2000 Series: 1 Port 10G XFP Test Module
XFP-4001A	XFP 10GBE LAN/WAN Personality Board, 1 Port
XFP-4004A	XFP UNIPHY/OC-192 Personality Board, 1 Port
XTO-4001A	X2 10GBE LAN Personality Board, 1-Port

- If you attempt to upgrade a chassis that contains one of these modules to this release, you will get an error message requesting that you remove the modules from the chassis before you install the firmware. You cannot upgrade a chassis to this release if one of these modules is in the chassis.
- If you insert one of these modules into a chassis that has already been booted with this release, the module will not boot, and it will not appear in the GUI. The status LED will illuminate, but it will be solid amber indicating the module is not booted.

The following **chassis** and **appliances** are not supported in this Spirent TestCenter release:

ACC-0015D	Spirent S50 LabServer
C50-KIT-17-START	Spirent C50 4-Port 5/2.5/1/100M 3 Wi-Fi NIC 2.4GHZ/5GHZ HW Timing
SPT-2000A	Spirent 2U Chassis and Controller
SPT-2000A-HS	Spirent 2U Chassis (W/ High Speed Fans) and Controller
SPT-2U	Spirent 2U Chassis and Controller
SPT-3U	Spirent 3U Chassis and Controller
SPT-9000A	Spirent 9U Chassis and Controller
SPT-11U	Spirent 11U Chassis and Controller. <u>Note:</u> Obsolescence does not apply to the newer SPT- N 11U chassis.

Transceiver Support

Spirent has a rigorous process for selecting and qualifying transceivers to operate with its test modules. This ensures the highest quality test results and seamless operation for end users. Refer to the Spirent Knowledge Base (<https://support.spirent.com>) and search for *Supported Transceivers* to access the current list or contact Spirent Support Services for a list of qualified transceivers.

The use of unqualified transceivers may cause intermittent link issues, FCS errors, dropped packets, auto-negotiation issues, and other Layer 1 problems. Even rebranded transceivers based on those included in Spirent's supported list may not be fully compatible.

In cases where Spirent qualified transceivers are not used, Spirent Support Services will troubleshoot those situations where a valid support contract is in place. However, in situations where compatibility with unqualified transceivers is suspected, Spirent Support Services may ask the customer to replace them with transceivers on our official list.

System Requirements

System Test	Recommended System
General Functional Testing at low port (< 20) and stream density and/or low protocol scale (100s of emulated endpoints)	<ul style="list-style-type: none"> ▪ Intel® i3 CPU (or equivalent) <ul style="list-style-type: none"> ○ 2.9 GHz or better ▪ 3GB RAM ▪ 50GB of free disk space
Scaling Testing with higher ports and/or single or multi-dimensional protocols scale	<ul style="list-style-type: none"> ▪ Intel i7 CPU (or equivalent) <ul style="list-style-type: none"> ○ 2.9 GHz or better ▪ 8 GB RAM ▪ 100GB of free disk space

Spirent TestCenter Hardware and Software Requirements

1. Spirent TestCenter SPT-N12U, SPT-N11U, SPT-N4U, SPT-C1, SPT-C50, or PX3/DX3-QSFP-DD-8 chassis/appliance with one or more ordered test modules and blank panels installed. Chassis firmware must be as follows:
 - Firmware v4.00 or greater for SPT-C1
 - Firmware v4.30 or greater for SPT-N11U
 - Firmware v4.33 or greater for SPT-N4U
 - Firmware v4.52 or greater for SPT-C50
 - Firmware v4.93 or greater SPT-C50-S2-RX
 - Firmware v4.93 or greater for PX3/DX3-QSFP-DD-8
 - Firmware v5.01 or greater for SPT-N12U
 - Firmware v5.05 or greater for PX3-QSFP-DD-8 (80-002545)
 - Firmware v5.11 or greater for PX3/DX3-QSFP-DD (80-002552)
 - Firmware v5.11 or greater for SPT-C2
2. Spirent TestCenter Application
3. License for BPK-1001A (Packet Generator and Analyzer Base Package A) is a minimum requirement.
4. A single instance of Spirent TestCenter is supported per PC when using the graphical user interface.
5. Refer to Knowledge Base article [FAQ11712](#) to verify the release version required for each test module.

Important Information Common to all Chassis

It is important to follow proper environmental procedures when using any Spirent TestCenter chassis. Make sure that all empty slots are covered with slot covers – PN ACC-2022A for the SPT-N12U, SPT-N11U, and SPT-N4U chassis.

Failure to follow proper procedures and **use slot covers** may result in a major loss of chassis functionality or a system crash.

Operating System Requirements

Any of Windows operating system variants listed in the table below can be used with the Spirent TestCenter GUI and API. The Linux/UNIX operating systems in the table below can be used with automation only.

Note: For Windows installations of the Spirent TestCenter Application, all Important Windows Updates should be installed.

For automation users, it is necessary to work with a combination of operating systems and scripting languages. The table shows the Spirent supportability matrix. Windows operating systems are supported for the following languages: English, French, German, Japanese, Korean, Chinese (traditional and simplified), and Italian.

Operating System	GUI	C/C++	C#	Java	Perl			Python				Ruby	Tcl & HLTAPI		REST		
		VS6/g++ 4.02 or later	VS6/g++ 4.02 or later	1.6	5.8.8	5.8.9	5.14	2.6.6	2.7.5	3.4.4	3.5.2	3.6	1.86	8.4.13, 8.5.9, & 8.5.14		8.6.10	
Windows	Server 2019	✓ ₅		✓	✓	✓	✓	✓	✓	✓	✓	✓	✓ ₂	✓	✓	✓	
	Server 2016	✓ ₂		✓	✓	✓	✓	✓	✓	✓	✓	✓ ₅	✓ ₂	✓	✓	✓	
	Server 2012 R2 DataCenter (64-bit only)	✓ ₂		✓	✓	✓	✓	✓	✓	✓	✓	✓ ₅	✓ ₂	✓	✓	✓	
	Server 2012 R2 Standard (64-bit only)	✓ ₂		✓	✓	✓	✓	✓	✓	✓	✓	✓ ₅	✓ ₂	✓	✓	✓	
	10 Pro 32-bit / 64-bit	✓ ₂	✓ ₅	✓ ₅	✓	✓	✓	✓	✓	✓	✓	✓ ₅	✓ ₂	✓ ₂	✓	✓	✓ ₂
	8.1 Pro 32-bit / 64-bit	✓ ₂			✓	✓	✓	✓	✓	✓	✓	✓ ₅	✓ ₂	✓	✓	✓	✓
	Server 2008 R2 Enterprise	✓ ₂	✓ ₂	✓ ₂	✓ ₂	✓ ₂	✓	✓	✓ ₂	✓	✓ ₂	✓	✓	✓ ₂	✓ ₂	✓	✓
	Server 2008 R2 Standard	✓ ₂	✓ ₂	✓ ₂	✓ ₂	✓ ₂	✓	✓	✓ ₂	✓	✓ ₂	✓	✓	✓ ₂	✓ ₂	✓	✓
	CentOS 6.3 x86_64 GNU/Linux								✓	✓	✓						
Linux	CentOS 6.8 x86_64 GNU/Linux													✓			
	CentOS 7.1 x86_64 GNU/Linux		✓	✓	✓			✓	✓	✓	✓	✓		✓	✓	✓	
	SUSE Linux Enterprise Server (x86_64)		✓	✓	✓			✓	✓	✓	✓	✓		✓	✓	✓	
	Ubuntu 10.04 64 bit								✓	✓							
	Ubuntu 10.10 64-bit				✓ _{1,2,3}	✓ _{1,2,3}		✓		✓							
	Ubuntu 12.04 64-bit							✓	✓	✓							
	Ubuntu 14.04 64-bit		✓	✓	✓		✓ ₁	✓	✓	✓	✓	✓		✓	✓	✓	
	Ubuntu 16.04 64-bit		✓	✓	✓			✓	✓	✓	✓	✓		✓	✓	✓	
	Ubuntu 18.04 64-bit		✓	✓	✓			✓	✓	✓	✓	✓		✓	✓	✓	

1. Multi-threaded
2. Running as a 32-bit application.
3. Requires LabServer
4. Requires openssh-client package
5. Running as a 32-bit or 64-bit application

Spirent TestCenter Enhanced L4-7

In addition to all Spirent TestCenter requirements, the Spirent TestCenter Enhanced L4-7 GUI requires a supported Web browser to be installed on the system.

Supported Web browsers:

- Mozilla Firefox
- Google Chrome
- Microsoft Edge

Supported Hardware:

- Refer to **FAQ18968** on the Knowledge Base (<https://support.spirent.com>)

Supported Endpoint types:

- IPv4 Devices, BGP Routes, OSPF Routes, DHCPv4, and PPPoEv4

Limitations:

- A total of 500 endpoints (devices or routes) per port are supported (500 endpoints in a single device/route block, 500 device/route blocks of 1 endpoint, or any combination thereof).
- When multiple protocols/apps are configured in traffic mix which are using same destination port number, depending on the order in which the protocols/apps present in the traffic mix for the duplicated destination port entries, the port number will be incremented to find next free port number to be used as destination port.
- For virtual ports to achieve correct L4-7 bandwidth, the number of client and server endpoints configured in the test should be equal to, or more than, the number of cores available on the port. For example, if a virtual port has 4 cores, create a configuration with 4 endpoints on client and server sides to achieve the expected bandwidth.
- If a test contains higher number of endpoint addresses (Ex: 500 addresses) with lower bandwidth (Ex: 100MB), steady bandwidth will not be achieved. Either reduce the number of endpoint addresses or increase the bandwidth to achieve steady bandwidth during the test.
- Domain names are not supported in web authentication actions.
- "tshark" environment variable should be set to point to the installed tshark location for Imported Application to work.
- Imported application with multiple streams having same destination port number is not supported.
- Raw TCP only supports Tx traffic direction
- Maximum pcap file size for Imported Application is 2MB

Virtual LabServer (vLS)

These are the recommended system requirements for vLS:

- 8 core CPU
- 32 GB RAM
- 500 GB disk (SSD or better)

Note: Disk usage is dependent on how many test results are maintained in the TestCenter IQ database. Refer to the TestCenter IQ User Guide (online Help) for details on how to export results for off-board archival.

A maximum of five (5) concurrent RFC 2544 benchmark tests of 90 ports each were tested on this system configuration.

Important: You must migrate (a new install, not an upgrade) to the new 64-bit Virtual LabServer VM image. The new 64-bit Virtual LabServer is not an upgrade from the previous 32-bit Virtual LabServer.

Refer to Appendix A in *Getting Started with Spirent TestCenter* for installation and configuration instructions for the Spirent Virtual LabServer (vLS).

Starting with release 4.81, Virtual LabServer includes a 64-bit application for improved performance.

- The 32-bit Virtual LabServer installs were distributed in two (2) file formats: OVA and Raw.
- The 64-bit VMs are released in OVA and QCOW2 formats. These are two the most used formats in current virtual ecosystems.
- With the 64-bit Virtual LabServer, there is also a new containerized image (gzipped tar file) for bare metal installs. This artifact is also used to upgrade a 64-bit LabServer in a VM deployment.

This table provides a list of hypervisors that are supported for Virtual LabServer.

Hypervisor	Distribution / Version
VMware ESXi	ESXi 5.5, 6.5, 6.7
QEMU/KVM	Ubuntu 14.04, 16.04, 18.04

LabServer

Without LabServer, customers can connect to Spirent TestCenter using any of the supported operating systems as clients.

Spirent TestCenter IQ – Supported Browsers

Browsers
Google Chrome
Mozilla Firefox
Microsoft Edge

Spirent TestCenter Virtual - Supported Hypervisors

Hypervisor	Distribution / Version
VMware ESXi	<ul style="list-style-type: none"> ▪ 4.0, 4.1, 5.1, 5.5, 6.5, 6.7
QEMU/KVM	<ul style="list-style-type: none"> ▪ Fedora 20 ▪ CentOS 6.5 ▪ Ubuntu 14.04, 16.04

Spirent TestCenter Virtual - Supported Cloud Platforms

Cloud Platform
OpenStack
Amazon Web Services (AWS)
Microsoft Azure
Google Cloud (GCP)

Spirent TestCenter Anywhere - Supported Linux OS Distributions

Distribution / Version
Fedora 20, 23
CentOS 6.5, 7
Ubuntu 14.04, 16.04

License Server 4.1.1

Hypervisor	Distribution / Version
VMware ESXi	<ul style="list-style-type: none"> ▪ 6.5, 6.7
QEMU/KVM	<ul style="list-style-type: none"> ▪ Ubuntu 16.04

Installation Instructions

Getting Started with Spirent TestCenter (DOC10032) provides hardware set up, software & firmware installation, and licensing instructions for customers who are receiving and installing a new Spirent TestCenter system.

This document is included in the *Documentation* folder on the installation DVD and is available in the current Documentation download file (.exe) on the Spirent Communications Customer Service Center (CSC) website (<https://support.spirent.com>). You can also search on **DOC10032** from the CSC Home page.

Effective with Spirent TestCenter release 5.08, instructions for performing a silent install of the application are included in *Getting Started with Spirent TestCenter*. Refer to **Procedure 3: Install Spirent TestCenter Software**. Note: The silent install option is not supported if you use the DVD to install the Spirent TestCenter application for Windows.

User Documentation

PDF documents support Spirent TestCenter product installation, Spirent TestCenter Virtual, Spirent TestCenter automation (including HLTAPI), and provide testing methodology information.

Tip: Newest versions of these documents are available on the Spirent CSC (<https://support.spirent.com>).

User documentation is included on the Spirent TestCenter installation DVD and is available in the Spirent TestCenter Documentation installer (.exe) on the CSC (<https://support.spirent.com>) *Downloads* page and in the *Knowledge Base* area.

Spirent Hardware Reference (DOC10031) is available on the Knowledge Base

The *Spirent Hardware Reference* provides information about Spirent TestCenter chassis, modules, module LEDs, multiple chassis connections, cables, and chassis commands. It includes basic information about system administration functions and diagnostics.

NEW *Quick Start Guide: Spirent™ TestCenter™ with Spirent™ AION Licensing*

This guide provides the steps to successfully launch Spirent™ TestCenter™, sign in to Spirent™ AION, and execute a test. You can find this quick start guide:

- As a *Related Resource* for the applicable software downloads on the [CSC](#)
- In the Spirent TestCenter Documentation installer (.exe) for the applicable software downloads on the [CSC](#)
- On the DVD included with your shipment
- On the Spirent Knowledge Base, record number [DOC12187](#)
- In the *Additional Documentation* folder in the online Help file (find it in the Help Table of Contents).

Spirent TestCenter Help files

Help files, included within Spirent TestCenter applications, provide reference information and context sensitive user support. To launch a Help file press **F1** in an open application or click the **Help** button in the menu bar or on a dialog box.

The current Help file is also available as part of the CSC Knowledge Base (DOC10335). This stand-alone Help file is fully functional. Use the Table of Contents to navigate the file or click the **Search** tab and enter a search string to find the information you need.

Spirent Support

To obtain technical support for any Spirent Communications product, please contact our Support Services department using any of the following methods:

Americas

E-mail: support@spirent.com

Web: <https://support.spirent.com>

Toll Free: +1 800-SPIRENT (+1 800-774-7368) (North America)

Phone: +1 818-676-2616

Hours: Monday through Friday, 05:00 to 17:00 Pacific Time

Europe, Middle East, Africa

E-mail: support@spirent.com

Web: <https://support.spirent.com>

Phone: +33 (1) 6137 2270 (France)

Phone: +44 1803 546333 (UK)

Hours: Monday through Thursday, 09:00 to 18:00, 9:00 to 17:00 Friday, Paris Time

Asia Pacific

E-mail: support@spirent.com

Web: <https://support.spirent.com>

Phone: +86 (400) 810-9529 (toll-free mainland China only)

Phone: +86 (10) 8233 0033 (China)

Operating Hours: Monday through Friday, 09:00 to 18:00 Beijing Time

Company Address

Spirent Communications, Inc.

27349 Agoura Road

Calabasas, CA 91301

USA

The latest versions of user manuals, application notes, and software and firmware updates are available on the Spirent Communications Customer Service Center website at <https://support.spirent.com>.

Information about Spirent Communications and its products and services can be found on the main company website at <https://www.spirent.com>.

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