Agilent 173x Series
Fibre Channel Test Solution

N_Port ID virtualization test capabilities

Data Sheet

Agilent Technologies, the provider of the SAN Tester application and fibre channel protocol analysis, is enhancing its test applications to address the needs of N_Port ID virtualization (NPIV) testing in the storage industry.

NPIV is the mechanism for multiple virtual servers to share the same physical hardware. This capability is a growing trend in the datacenter, and it is expected that the growth of virtual servers will soon out pace the growth of physical servers in the data center. This means, for companies providing NPIV support, it is important to ensure that the NPIV functionally is tested, to ensure no issues at deployment time in your customer's data center.

This new software package from Agilent contains features that will help test and debug your NPIV design from implementation to validation and scalability testing.

Functional testing

Functional testing requires the ability to exercise the different branches of your NPIV implementation. Flexibility in the test application, in both timing and parameter control, can help you create more test scenarios, and exercise more branches.

In Agilent's NPIV software by default, each virtual device will login with same parameters as the parent node. This will ensure in most cases, minimal configuration is required. However, you also have the ability to change all the parameters of every virtual device. An example scenario is to set the virtual device with a different Buffer to Buffer Credit (BBC) value to the physical port, and check how this is handled by the fabric or the switch.

The Agilent NPIV software also give you the ability to create negative test scenarios. One such example is to try and login a virtual device (with a FDISC), without first having logged in the physical port.

Scalability testing

For scalability, the Fibre Channel standards allow a maximum of 255 virtual devices behind each physical port, and 255 is the number supported by Agilent's NPIV software package. This level of scalability in the test tool allows you to validate your design, to give you full confidence when the DUT is deployed in your customers' systems.

To help with the testing, there is a throttling mechanism available in the software, allowing you to control the speed of the login. You have the option to login all the devices as fast as possible, creating stress for the DUT, or you can throttle the login, so only a few virtual devices login each second.

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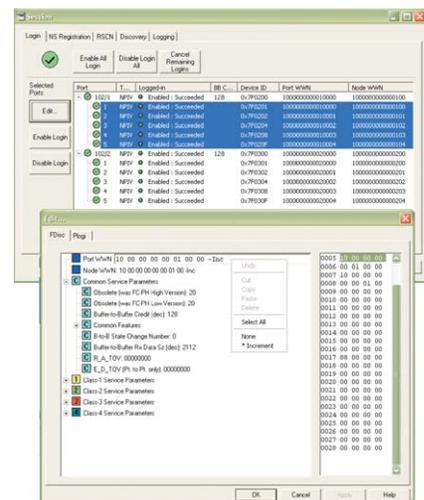
Interoperability testing

Different products on the market that support NPIV have different interpretations of the standard, and thus behaviors. Testing with as many different versions is certainly important.

To help accelerate the interoperability testing, the Agilent software can mimic different types of behaviors. In fact, each virtual device can be configured with different emulated behaviors. For example, one device can register for state change notification, and another devices can not register. The ability to configure different behaviors helps validate the robustness of the device, and accelerate the test cycle.

Configuration guide

The NPIV software package is available as a software upgrade on all current Agilent hardware modules (1733A, 1735A, 1736A, and 1736B) and all interface speeds from 1Gb/s to 8Gb/s.

Part number	Description
New hardware purchase	
1735A	1, 2 and 4Gb/s Fibre Channel Multifunction Protocol Analyzer and Traffic Generator
1735A-NPV	SAN Tester : N_Port Virtualization (NPIV) SW License
1736A	
1736A-NPV	SAN Tester : N_Port Virtualization (NPIV) SW License
Upgrade your existing hardware	
1733U-NPV	SAN Tester : N_Port Virtualization (NPIV) SW License Upgrade
1735U-NPV	SAN Tester : N_Port Virtualization (NPIV) SW License Upgrade
1736U-NPV	SAN Tester : N_Port Virtualization (NPIV) SW License Upgrade

Related literature

Publication title	Publication type	Publication number
Agilent Technologies 173x Series Fibre Channel Test Solutions	Color Brochure	5988-6806EN
Agilent N2X Chassis N5540A, N5541A and N5542A	Technical Data Sheet	5989-1531EN
1735A 1, 2 and 4 Gb/s Fibre Channel Multi-Application Protocol Analyzer Module and Traffic Generator	Data Sheet	5989-1661EN
1736 1, 2, 4 and 8G Fibre Channel Dual Purpose Module	Data Sheet	5989-6903EN

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Product specifications and descriptions in this document subject to change without notice.

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