Dell Networking N-Series Switches – Proven Plug-and-Play Performers

Besides line-speed performance on all ports, lab testing found smooth interoperability with Cisco and broad VoIP support

Miercom, a leading independent, network-product test lab, unveiled the results of comprehensive tests it conducted on Dell N-Series switches.

Besides verifying line-rate performance on all ports with no loss, Miercom checked the Dell switches' interoperability in numerous scenarios, with various other vendors' products. Key among them was Cisco. We found that Dell's N-Series plugs and plays smoothly with comparable Cisco switches, as detailed below.

Representative models of the Dell N-Series switches were tested, including:

- The N2024P, an access switch featuring 24 x 1GE copper PoE ports, two 10GE uplinks, full L2 and some L3 support, and stacking

- The N3024P, an access switch featuring 24 x 1GE copper PoE ports, (two of them 'combo' copper or fiber), two integral 10GE uplinks, full L2 and L3 support, and stacking

- The N4032, an aggregation switch featuring 24 x 10GE copper ports, two 10GE fiber ports, various optional modules adding more 10GE ports, and full L2 and L3 support.

Cisco Interop

We tested to see if Cisco and Dell switches were STP (Spanning Tree Protocol) compatible. A Cisco switch configured for STP was connected to a Dell switch and a link was failed. STP re-routed the traffic without issue, including switching back after the link was

re-established. What's more, the failover times were as fast as if the switches were both either Cisco or Dell.

We found that the Dell equivalent of Cisco's discovery protocol, called ISDP, works out of the box in capturing and reporting CDP neighbor's informational messages.

Also, Dell has built into the N-Series CLI (command line interface) a high degree of compatibility and consistency with Cisco's.

A user familiar with Cisco's CLI will master Dell's, given its similarity with Cisco's, in short order.

Dell N-Series switches deliver

- **Spanning Tree interoperability**
- **Familiar Cisco command line**
- **Cisco VoIP phone support**
- **Similar power consumption**

Dell N2024P

Dell N3024P

Dell N4032

Additionally, in terms of power consumption, we measured the equivalent configurations of Cisco and Dell N-Series switches. Both consume roughly equivalent power levels, though the Dell N-Series, in a few cases, drew a little less.

VoIP Support

Miercom tested the Dell N-Series switches for compatibility with leading VoIP equipment and services. The Dell switches worked with everything – all VoIP vendors' equipment, VoIP services and VoIP telephony features. In addition, Dell offers an excellent how-to document in setting up a switched infrastructure for VoIP. It ought to be required reading for anyone deploying VoIP for the first time. The test results make clear that Dell knows VoIP.

Cisco, Avaya and Polycom phones all connected to the Dell switches, powered up in seconds and operated without issue. Avaya support was especially smooth. We simply connected the Avaya IP-PBX and phones to a Dell N3024. In three minutes the phones had dial tone and we were placing calls. The Dell N-Series switches' VoIP support was a ten on a scale of one to ten.

With proven wire-speed traffic handling on all ports with no loss, and with stacking, PoE and VoIP support, and Cisco-compatibility, the energy-efficient Dell N-Series is awarded *Miercom Interoperability Verified* as a result of this comprehensive switch testing.

VoIP Interoperability Testing

VoIP Servers and Services

- Cloud-based, SIP (8x8)
- Avaya IP-PBX, local
- Cloud-based, SIP (Nextiva)

Leading PoE VoIP Phones

Polycom WX500

Cisco SPA 525G2

Avaya 4610 SW IP

Dell switches interop-tested with

Cisco 2960X

Cisco 3750G

Cisco 4500X

About Miercom's Product Testing Services

Miercom has published hundreds of network-product-comparison analyses in leading trade periodicals and other publications. Miercom's reputation as the leading, independent product test center is undisputed.

Private test services available from Miercom include competitive product analyses, as well as individual product evaluations. Miercom features comprehensive certification and test programs including: Certified Interoperable, Certified Reliable, Certified Secure and Certified Green. Products may also be evaluated under the Performance Verified program, the industry's most thorough and trusted assessment for product usability and performance.

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