



Tolly.

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Commissioned by BLADE  
Network Technologies, Inc.

## BLADE Network Technologies: RackSwitch G8000, G8100, and G8124 Functionality Certification and Cisco Catalyst Interoperability Evaluation

### EXECUTIVE SUMMARY

In a world of ever-evolving standards and tight budgets, network managers searching for new equipment need to know that the switches they purchase are interoperable with their current infrastructure. It is important for managers to know which devices can maintain their interoperability with different standardized functions.

The Tolly Group evaluated the BLADE RackSwitch G8000, RackSwitch G8100, and RackSwitch G8124 to seven Layer 2 Interoperability tests such as auto-negotiation, 802.1p/Q VLAN tag propagation, 10GbE LAN PHY support, 802.3ad LACP support (Cisco EtherChannel), Rapid Spanning Tree Protocol (Cisco PVRST+), Multiple Spanning Tree Protocol 802.1s support, and Jumbo Frames.

In Layer 2 interoperability tests, the three BLADE RackSwitches consistently demonstrated interoperability with the Cisco Catalyst 6506-E.

#### BLADE RackSwitch G8000, G8100, and G8124 Switch Interoperability Certified Features/Functions


Certification	Result
Auto-Negotiation	
802.1p/Q VLAN Tag Propagation	
Jumbo Frame support	
Link Aggregation Control Protocol (EtherChannel)	
10GbE LAN PHY support	
Rapid Spanning Tree Protocol (RSTP or PVRST+)	
Multiple Spanning Tree Protocol (MSTP)	

Source: Tolly, March 2009

Figure 1

Heterogeneous, multivendor networks are the rule rather than the exception. IT managers who deploy a variety of Fast Ethernet, Gigabit Ethernet and Ten Gigabit Ethernet switching devices in their networks need to be able to guarantee the interoperability of these switches in order to maintain a functioning network.

Testing was conducted in March - April 2009.

The test methodology used for this report relies upon test procedures, metrics and documentation practices as defined by Tolly Common RFP, #1088 LAN Switch Interoperability. V1.0.

To learn more about Tolly Common RFPs, go to:  
<http://CommonRFP.com>

transmit Jumbo Frames (9K bytes) across the network setup.

### 10GbE LAN PHY

This verifies that the BLADE switches tested have the ability to transmit data over the network with Cisco's 10-Gigabit Ethernet interface.

### Link Aggregation Control Protocol (LACP)

This test verifies BLADE's ability to trunk ports across Cisco's switch using IEEE 802.3ad Link Aggregation Control Protocol (LACP), also referred to as EtherChannel.

## Layer 2 Functions

### 10/100/1000

#### Auto-Negotiation

All BLADE switches interoperated with the Cisco switch. Devices earning this certification have demonstrated the ability to establish the highest available speed and duplex setting.

#### 802.1p/Q VLAN

#### Tag Propagation

All BLADE switches interoperated with the Catalyst 6506-E. Devices earning this certification have demonstrated the ability to recognize and maintain 802.1p/Q tags of packets traversing the network.

#### Jumbo Frame Support

Devices earning this certification have demonstrated the ability to

### Rapid Spanning Tree Protocol (RSTP)

Devices earning this certification have demonstrated the ability to detect a failure of the Layer 2 spanning tree via the IEEE 802.1w Rapid Spanning Tree protocol, or PVRST+, and to establish a new Layer 2 "tree." In networks where multiple data paths exist, this approach provides a quicker re-establishment of traffic paths and dramatically reduces user downtime when compared with the recovery mechanism of traditional 802.1D spanning tree bridges/switches. All three BLADE RackSwitches were able to interoperate when using this protocol.

### Multiple Spanning Tree Protocol (MSTP)

This verifies that the BLADE switches tested implement IEEE 802.1s

**BLADE Network Technologies, Inc.**



**RackSwitch G8000, G8100, G8124**

*Tested March 2009*

**Layer 2 Interoperability Evaluation and Functionality Certification**

Multiple Spanning Tree instances on a switch port to selectively allow or block multiple VLANs, without blocking all traffic traversing the port.

## Test Setup & Methodology

Tolly Group engineers tested three BLADE switch models, the RackSwitch G8000, RackSwitch G8100, and the RackSwitch G8124.

All BLADE RackSwitches were running firmware Ver. 1.0.1.4. Cisco Catalyst was running software version 12.2(33)SXH4.

The test bed utilized Spirent's TestCenter 9000A chassis, equipped with MSA-2001A (two-port 10GbE) test modules, with TestCenter application version 2.32.

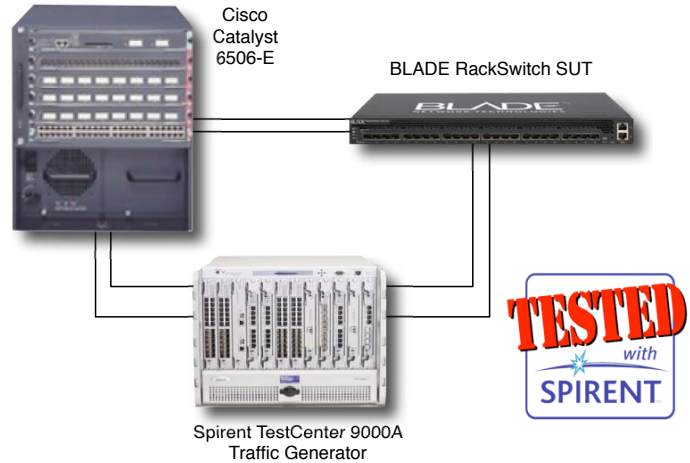
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## Test Bed Diagram



Source: Tolly, March 2009

Figure 2

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