

# Cisco SN 5420 Storage Router



## Executive Summary

Cisco Systems has internally tested and benchmarked on the Cisco SN 5420 Storage Router in a variety of situations. The goal of this testing was to show that the Cisco SN 5420 can produce similar throughput to native fibre. In addition, the advantages of its features must be stressed in accordance with the benchmarks.

Cisco used the Intel Iometer benchmark in the Windows NT Service Pack A environment. The results of the testing show that the Cisco SN 5420 Storage Router is competitive with native fibre channel, and that its remote data access, remote backup, pooled storage, and IP security features make it an attractive option for a storage area network.

## Test Methodology

All performance tests were conducted twice to ensure the results.

For the Cisco SN 5420 tests, the IBM Netfinity was connected to a single Cisco SN 5420, which was connected to a Compaq RAID array. The fibre channel connection was through a Vixel hub and the Gigabit Ethernet connection was through a Cisco Catalyst® 6500 Switch. The fibre channel tests were run using the IBM Netfinity connected to a Compaq RAID array through a Vixel hub.

## Test Configuration:

### Cisco SN 5420 Test Setup

- IBM Netfinity 4500R with:
- Intel Pentium III 800 MHz
  - 512 MB RAM
  - 3COM 3C985B-SX Gigabit Ethernet
  - Microsoft Windows NT 4.0 Service Pack 6a

Cisco Catalyst 6500 Switch  
Cisco SN 5420 Storage Router  
Compaq MA6000 HSG60 Disk Array

### Fibre Channel Test Setup

- IBM Netfinity 4500R with:
- Intel Pentium III 800 MHz
  - 512 MB RAM
  - Qlogic QLA2200F FC HBA
  - Microsoft Windows NT 4.0 Service Pack 6a

Compaq MA6000 HSG60 Disk Array

Figure 1

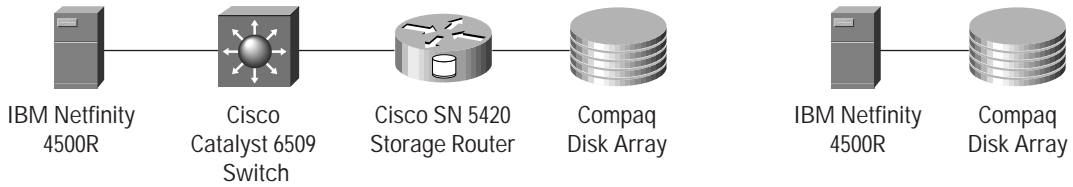
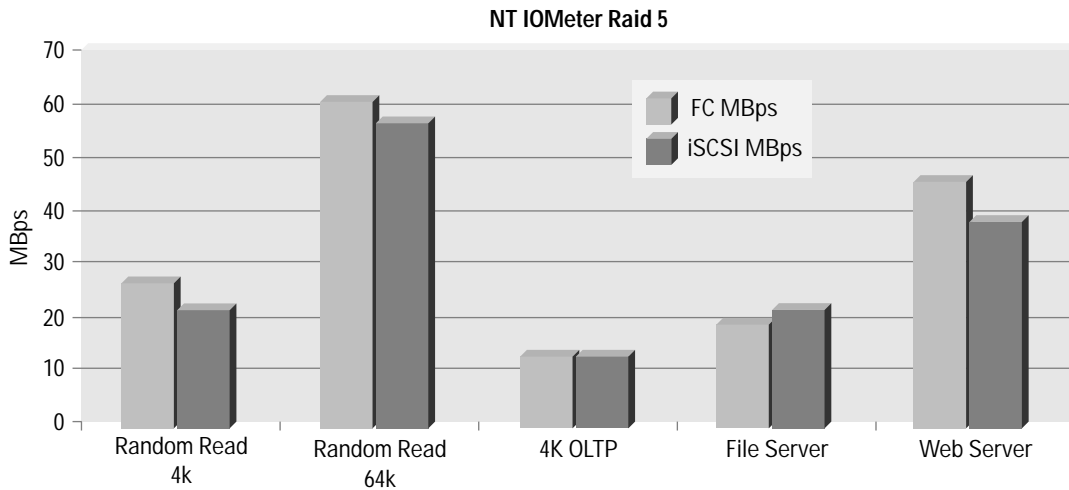


Figure 2



### Test Remarks

The tests “4K OLTP, File Server,” and “Web Server” are predefined tests that are distributed with the IOMeter test. The tests “Random Read 4k” and “Random Read 64k,” as their names imply, execute 100 percent random and 100 percent reads of 4k and 64k.

These tests were selected because they are more representative of “real life” disk usage, rather than tests that show best-case throughput, but would never occur with real applications. The number of outstanding I/Os was set to 10. A formatted disk was used, and the maximum sector was set to 20480 to limit the test to a 10-MB region of the disk.

These results were obtained using Iometer version 1998.10.08, Copyright 1996-98 by Intel Corporation. Intel does not endorse any Iometer results.

### Summary

The importance of the benchmarks is to show that IP connectivity and the other Cisco SN 5420 features can be achieved without having a severe impact on performance. The Cisco SN 5420 is the first product of its kind based on the IETF IP storage (iSCSI) draft standard. As the Cisco SN 5420 matures, and its driver and firmware are upgraded, Cisco expects performance to continue to increase.

The Cisco SN 5420 Storage Router and iSCSI allow global access to storage through IP with little disruption to an existing network. The Cisco SN 5420 also provides an open standards solution with all the common security, interoperability, scalability, and manageability of a Cisco product.



Corporate Headquarters  
Cisco Systems, Inc.  
170 West Tasman Drive  
San Jose, CA 95134-1706  
USA  
www.cisco.com  
Tel: 408 526-4000  
800 553-NETS (6387)  
Fax: 408 526-4100

European Headquarters  
Cisco Systems Europe  
11, Rue Camille Desmoulins  
92782 Issy-les-Moulineaux  
Cedex 9  
France  
www-europe.cisco.com  
Tel: 33 1 58 04 60 00  
Fax: 33 1 58 04 61 00

Americas Headquarters  
Cisco Systems, Inc.  
170 West Tasman Drive  
San Jose, CA 95134-1706  
USA  
www.cisco.com  
Tel: 408 526-7660  
Fax: 408 527-0883

Asia Pacific Headquarters  
Cisco Systems Australia, Pty., Ltd  
Level 9, 80 Pacific Highway  
P.O. Box 469  
North Sydney  
NSW 2060 Australia  
www.cisco.com  
Tel: +61 2 8448 7100  
Fax: +61 2 9957 4350

Cisco Systems has more than 200 offices in the following countries and regions. Addresses, phone numbers, and fax numbers are listed on the  
**Cisco Web site at [www.cisco.com/go/offices](http://www.cisco.com/go/offices)**

Argentina • Australia • Austria • Belgium • Brazil • Bulgaria • Canada • Chile • China PRC • Colombia • Costa Rica • Croatia  
Czech Republic • Denmark • Dubai, UAE • Finland • France • Germany • Greece • Hong Kong SAR • Hungary • India • Indonesia • Ireland  
Israel • Italy • Japan • Korea • Luxembourg • Malaysia • Mexico • The Netherlands • New Zealand • Norway • Peru • Philippines • Poland  
Portugal • Puerto Rico • Romania • Russia • Saudi Arabia • Scotland • Singapore • Slovakia • Slovenia • South Africa • Spain • Sweden  
Switzerland • Taiwan • Thailand • Turkey • Ukraine • United Kingdom • United States • Venezuela • Vietnam • Zimbabwe

Copyright © 2001, Cisco Systems, Inc. All rights reserved. Printed in the USA. Catalyst, Cisco, Cisco IOS, Cisco Systems, and the Cisco Systems logo are registered trademarks of Cisco Systems, Inc. and/or its affiliates in the U.S. and certain other countries.

All other brands, names, or trademarks mentioned in this document or Web site are the property of their respective owners. The use of the word partner does not imply a partnership relationship between Cisco and any other company. (0104R)  
6/01 LW2432