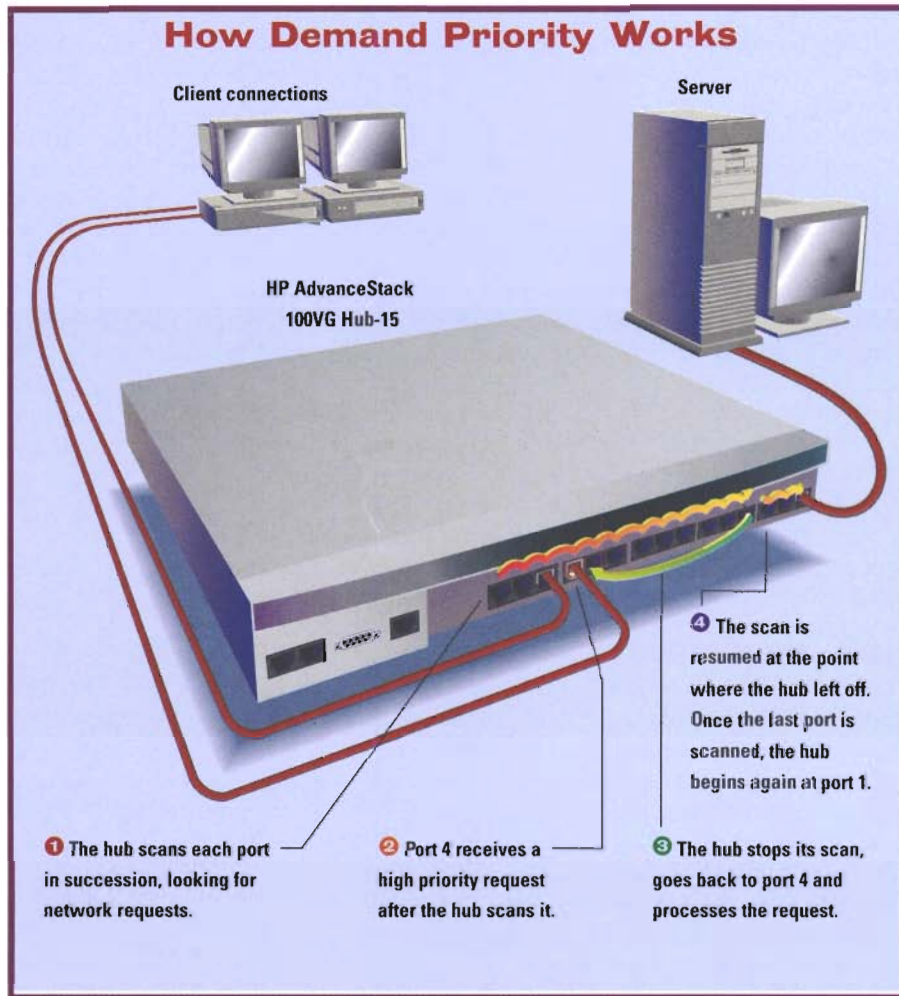




The Debut of HP's Faster LAN

How Demand Priority Works



BY JEFFREY D. BAHER

Network architects can start drooling. The HP AdvanceStack 100VG Hub-15 (\$3,750) is finally here. This is the first product to implement 100VG-AnyLAN, an emerging high-speed networking standard. The AdvanceStack 100VG provides blazing performance at rock-bottom prices (\$250 per port, plus adapters). The catch? You have to upgrade all your network hubs and adapters.

The new hub looks just like HP's other AdvanceStack products. It has 15 ports for connecting nodes, and one port for con-

necting the hub to another AdvanceStack 100VG. It also has three ports for out-of-band management—a serial port for attaching a terminal and two 10BaseT ports for connecting the hub with other AdvanceStack modules. You can connect the hub to other Ethernet networks through an optional SNMP/Bridge module (\$1,495). Despite its name, this module provides no SNMP management. We could only configure and view the status of hub ports using HP's StackManager application and the out-of-band management connections. SNMP support should be added by the time you read this article.

Though the hub looks like other AdvanceStack products, appearances can

be deceiving. Under the sleek gray-blue exterior of the AdvanceStack 100VG lurks *Demand Priority*, the new network-access method at the heart of 100VG-AnyLAN—the draft standard for passing Ethernet and Token-Ring frames over a single 100-Mbps network.

With Demand Priority, AdvanceStack 100VG guarantees equal network access to every connected device by sequentially scanning every port for network requests. Clients and servers using the HP 10/100VG Selectable PC LAN EISA Adapter (\$349) can gain *high priority* network access by enabling the option through the adapter driver (see the sidebar “How Demand Priority Works”).

HOW FAST DO YOU NEED TO GO?

We tested the AdvanceStack 100VG to see how Demand Priority fared against Fast Ethernet. We expected to see impressive results from the HP hub; we weren't

disappointed. The AdvanceStack 100VG screamed through our NetBench 3.0 tests, leaving the slower Grand Junction FastSwitch 10/100 AG (see Network Edition, December 6, 1994) behind in every instance. In all fairness, the FastSwitch is designed to provide *10 Mbps* to each client, not *100 Mbps* like the AdvanceStack. Grand Junction's new FastHub 100, a 16-port Fast Ethernet repeater, was unavailable for testing.

In additional testing, we found that both the AdvanceStack and the FastSwitch were able to handle six concurrent MPEG video streams without a problem, although the FastSwitch could do so only in Fast Ethernet mode.

Keep in mind that moving to 100VG-AnyLAN requires extensive retooling. You'll need to replace your client adapters along with your hubs. The material expense isn't too bad, though: the hub with 15 EISA adapters will cost only slightly more than the FastSwitch 10/100 AG

(\$8,950 plus \$499 for the server adapter which has five Fast Ethernet ports and Ethernet ports. And you won't have to replace existing cable: 100VG-AnyLAN supports Category 3, 4, and 5 UTP.

Overall, HP's initial foray onto the high-speed networking battlefield is impressive. There's no question that the AdvanceStack 100VG can deliver blistering performance. Whether or not you need that performance right now is another question.

► **HP AdvanceStack 100VG Hub-15.** List price: \$3,750; HP 100VG SNMP/Bridge module, \$1,495; HP 10/100VG Selectable LAN Adapter, \$229 (ISA); \$349 (EISA). Hewlett-Packard Co., P.O. 58095 Mail Stop 511L-SJ, Santa Clara, CA 95051. 800-533-1333; fax, 800-333-1997.

OUR CONTRIBUTORS: CHARLES LIN and HUY NGUYEN, technical specialists at ZD Labs, did additional testing for this story.



Benchmark Tests: High-Speed Networks

The HP AdvanceStack 100VG Hub-15's performance was spectacular. We tested it and the Grand Junction FastSwitch 10/100 AG—which ran in both switched-Ethernet mode (10-Mbps server pipe) and Fast Ethernet mode (100-Mbps server pipe)—with 1 client, 6 clients, and 12 clients.

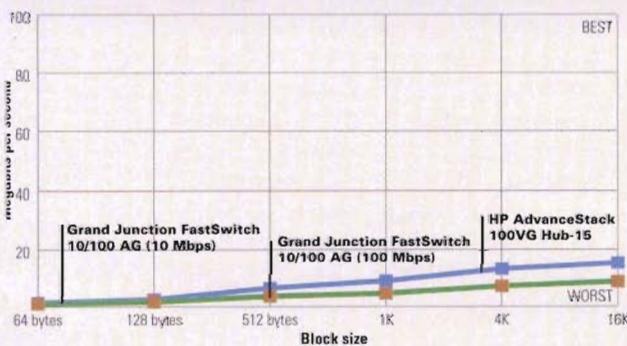
The benefits of the Advanced Stack 100VG's faster signaling scheme were immediately apparent in one-client throughput testing: It delivered between 30 and 45 percent higher throughput than the FastSwitch in either mode. As we added clients, the FastSwitch's 100-Mbps server pipe kicked in, and performance increased steadily. But the AdvanceStack 100VG's performance improved even more dramatically, topping off at over 90 Mbps.

Our NetWare 3.12 test-bed consisted of 1 Compaq SystemPro XL/50 server with 128MB of RAM (with a Pentium/66 upgrade) and 12 clients—6 Compaq ProLinea 486/33s and 6 Micron PowerStation P90PCs. Each of the Micron PCs was equipped with Sigma Designs' RealMagic MPEG board.

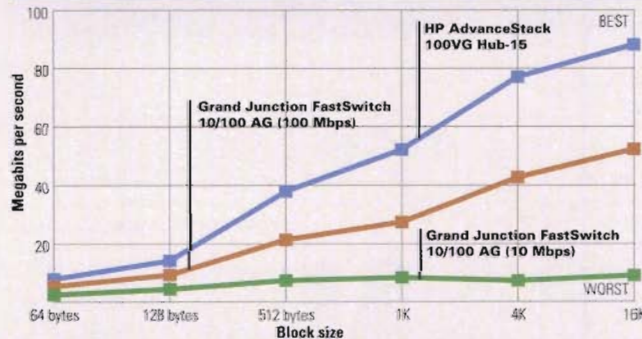
The NIC Throughput test from NetBench 3.0 measures the amount of data

a client can transfer across the network in 1 second. The client issues a series of read requests to a file stored in the server's cache. The test uses a 1MB file and blocks ranging from 64 bytes to 16K.

NIC THROUGHPUT (1 client)



NIC THROUGHPUT (6 clients)



NIC THROUGHPUT (12 clients)

