CNS /Update Newsletter Feature

Major Upgrade In Progress for UF Internet Connection

CNS Document ID: u040401a
Last Updated: 3/31/2004

UF Information Technology

UFIT

2046 NE Waldo Rd, Suite 2100
Gainesville Florida 32609-8942
(352) 392.2061
<editor@cns.ufl.edu>
Table of Contents

Major Upgrade In Progress for UF Internet Connection ..................................................3
Major Upgrade In Progress for UF Internet Connection

Like any other major connection between networks, the UF campus network is connected to the Internet through devices called routers. Routers are used to keep local traffic on the local network. They also route traffic outbound from, or inbound to, the local network, as appropriate, while keeping out the huge volume of other traffic on the Internet which is not addressed to UF hosts. This protects the UF campus network from security threats and from becoming congested with irrelevant data packets.

The Cisco GSR (Gigabit Switch Routers) 12008 that are UF's current interface to the Internet were the "state of the art" when they were purchased in December 1999. As time has progressed, UF's use of the Internet has increased to the point that the GSRs are strained to maintain the current level of service.

In addition to the primary Internet connection routers, another router, the ssrb-nat-7507 router, provides Network Address Translation (NAT) that enables private IP (Internet Protocol). This enables a set of purely local IP addresses, which are not routable on the Internet, to have access to the Internet. Over the past several years private IP use on campus has dramatically increased, mainly due to the implementation of wireless and authenticated networking through the WIPA (Walk-up Internet Port Authentication) system. The Cisco 7507 NAT router is strained under the current load.

The age of both the GSR primary Internet routers, and the 7507 NAT router prevents the implementation of new features including Quality-of-Service (QoS) and needed security mechanisms. During times of high use or Denial of Service (DoS) attacks using private IP, the ssrb-nat-7507 router has occasionally temporarily failed due to its inability to process packets fast enough to keep up with traffic flow. Cisco has also stopped development of code for the processing engine in this 7507 router and several of the linecards (connection modules) will no longer be supported starting in 2005.

Network Services is embarking on a project to replace the current outmoded and overloaded equipment with new high-capacity systems. Replacing the legacy routers with high-performance Cisco 7609 routers will offer a more cost-effective approach to maintaining and upgrading the system to meet current and future demands of the university. NAT functionality will be moved to a high-performance PIX module in the 7609 routers. By upgrading to the Cisco 7609 routers, UF will be in a position to connect to the Florida Lambda Rail (FLR) through a 10-Gigabit/second connection. The 7609s are the preferred platform by FLR for connectivity.

When completed, this conversion will result in:

- A significant increase in bandwidth available to UF campus Internet users
- A significant decrease in cost due to reductions in management, maintenance, and hardware costs, and by making available more cost-effective Internet bandwidth
- Improved Quality of Service
- Improved Security
At press time, this project was scheduled for completion by March 21, 2004.

Your Comments are Welcome

We welcome your comments and suggestions on this and all UFIT documentation. Please send your comments to:

UF Information Technology

UFIT

2046 NE Waldo Rd, Suite 2100
Gainesville Florida  32609-8942
(352) 392.2061
<editor@cns.ufl.edu>