

# ACN Report

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## The Upgrade is Here!

The current users of the ACN should note a flurry of activity in the NCS wing of Building 12 in Arlington, VA throughout the remainder of 2002. Changes are coming to the NCS and with that, so will be new faces and equipment. Racks of data servers, Cajun switches and upgraded PBX switches will be replacing older, more antiquated equipment fulfilling a change that has been anticipated for nearly a year.

The new and improved PBX will still be located in room 2410A1; however, room 2402K will be upgraded to a server room. This is where the new faces will be prevalent. Engineers contracted by the NCS will be installing racks of servers and switches to support the new MPLS VoIP network that is replacing the existing point-to-point ACN network.

Once the equipment is installed, connectivity will be established to all of the current users of the ACN network in Building 12. New Category 5e cabling will be run from the Cajun switch, which will be located in the server room, to each user location allowing for the eventual upgrade to the VoIP network. The Category 5e cabling will then be terminated on RJ-45 jacks located near the new VoIP telephone sets. As soon as remote locations are identified, circuits will be ordered to complete the project.

So, as you walk down the halls of the NCS in the coming months, stand back ...technology has arrived.



*Left: New Definity Prologix G3si as installed at Culpeper and Arlington sites.*

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## A Network Make-Over

The ACN will be continuing to make significant changes within the next several months. First and foremost, the current point-to-point industry-funded system in use today will be upgraded to an Internet Protocol (IP) enabled managed network known within the industry as Multi-Protocol Label Switching, or MPLS. The decision to convert to this specific type of network was difficult; however, the benefits associated with MPLS are unparalleled.

Only recently has the industry been able to provide a Class of Service (CoS) offering within an IP enabled environment through the core of a network. This new development has provided the impetus to successfully roll out a VoIP network. MPLS has been proven as one of the most exciting developments within the telecommunications industry in quite some time.

With the inception of this network, ACN users should experience minimal to no down time. This will be achieved through not only the MPLS offering, but also a network backbone comprised of OC-192 SONET Rings, and finally the approval of Telecommunications Service Priority (TSP) 1 for restoration. All VoIP packets within the network will receive a CoS 1, guaranteeing priority in packet delivery. The effect will be toll-quality voice capabilities.

Network congestion has been a historical concern for this new network. The intent when selecting a replacement for the current ACN network was to provide a robust and reliable solution.

Users, welcome to your new network. We believe you will be pleasantly surprised.

*The Alerting and Coordination Network is taking advantage of the latest and greatest, affording the opportunity to transport its users through the fast paced world of Information Technology.*



## PBX Infrastructure Development

The ACN has been through many conceptual changes, which now have come to fruition. The upgrades to the PBX's are scheduled to be completed the week of August 26. The initial PBX upgrade will be transparent to most users, who will not be impacted until the new network connections are installed and tested. Over the next few months, digital connectivity will be established at each user location and each user will receive a new VoIP telephone set. The phone directory will see some changes as well to accommodate the new PBX's and growth of the network. Several benefits will be apparent, including an Intuity Voice Mail system upgrade whereby all users will be able to create a new voice mailbox, and a software-monitoring program that will provide the capability to see "real-time" reports on the network status down to the IP Phone. This feature alone should provide enhanced reliability as the project advances through its transition.

## Latest IP Phone Technology

Hardware and software evolve on a daily basis allowing for the opportunity to exploit ever-changing technologies. For example, in the last issue of the ACN Report, it was noted that users would be receiving the Avaya 4606 IP Phones. Since then, however, Avaya has released the new 4620 IP Phone. The decision was made to issue a change request on the hardware order and obtain the latest in available technology.

The upgraded phone offers a few expanded features:

- Larger display (8 line vs. 2 line)
- Active directory function
- Speed dial by name/number
- Menu driven options screens
- WML publishing capabilities (which will eventually be available on the network)
- The phone will retain the same functionality as the legacy equipment (i.e., speaker phone, 12 programmable buttons, soft keys, etc.)

It is strongly recommended that all users take the time to read the users manual for the new telephones. The upgrades to the circuits and equipment will occur in phases with a completion date of April, 2003. Over the next few months, users will be receiving correspondence about the upgrade to affected circuits and equipment.

# Reliability Where and When It Counts: FAQ

With the impending upgrade to the new Voice over Internet Protocol (VoIP) switches and version 11 software, several changes are going to be taking place. In the hopes of alleviating some concerns, the following **Frequently Asked Questions** have been compiled.

**How will the upgrade affect my analog telephone?**

There will be no impact to analog telephone users. All telephones will be able to continue with normal services.

**What is going to happen to my voice mail account?**

All voice mailboxes will be upgraded. Concurrently, every user on the network will have a private voice mailbox. Instructions will follow shortly explaining how to set up individual accounts.

**Will I still be able to access a regular telephone line on my ACN phone?**

Absolutely. There will be no impact on the Direct Inward Dial (DID) lines that are currently in place allowing users to dial out to the Public Switched Telephone Network (PSTN). Also, the conference bridges will still be available.

**Will I keep my same telephone number?**

No, due to the upgrades, the numbering plan for the PBX's are being reconfigured. All users will be notified of the new telephone numbers as soon as the numbers are implemented. All analog users will maintain their original numbers until they are upgraded to the new VoIP telephones.

**Will I get a new telephone directory, and if so, when?**

Yes, all ACN users will be receiving new telephone directories. Telephone directories will be published concurrently with the migration of users. Consequently, several directories will be published, each directory will be dated to differentiate the old from the new directories.

**When will I get my new VoIP telephone set?**

The upgrade of the actual network to accommodate the VoIP telephones will occur over the next several months. After a digital line is installed into your location, a VoIP telephone will be shipped to you with all pertinent instructions. Every attempt will be made to keep the users informed of the upgrade at their location.

**More questions? Please contact Ron Thomas, ACN Program Manager at 703-607-4963.**



# "Ready and Waiting!" ACN Equipment Sites Declare

Recent telephone surveys with ACN user sites reveal that system operators are looking forward to the improvements and cost savings that the new ACN equipment will deliver. "We are ready and waiting for the installation of the new phone, and look forward to the new capabilities," said one ACN program participant today. "It's very important for us to get it set up right, get the right staff members trained on emergency procedures, and keep the equipment in good working condition. Even if it's a long time until the next emergency situation occurs, we'll be ready if and when it does."



Voice Over IP (VoIP) and data networks that have been engineered to upgrade the network capability and new phone features (i.e., the phone's 4"x3" large screen display allowing access to the World Wide Web) provide increased functionality and ease of use for site operators.

Appearing in this innovative phone display area are four primary applications:

1. Phone
2. Speed Dial
3. Call Log
4. Web Access



The Web Access application browser performs similarly to those on many PDAs or cell phones. In addition, there is an Options function to define settings, personalize your phone, and troubleshoot certain functions.

"Security is a big priority for us," states another ACN member, after acknowledging that they too are ready for the new equipment to be installed. In closing, he added "The events of this last year have underscored that we can't ever be too cautious. It's our responsibility to get trained on the full use of this system and make sure that only authorized people have access to it."

## Did You Know?

Alexander Graham Bell's greatest success was achieved on March 10, 1876, marking the birth of the telephone. Mr. Bell's notebook entry of that date describes his successful experiment with the telephone. Speaking through the instrument to his assistant, Thomas A. Watson, in the next room, Bell utters these famous first words, "Mr. Watson -- come here -- I want to see you."



## Test Schedule

3rd Quarter 2002

**September 10**

4th Quarter  
2002

**October 9  
November 12  
December 10**

## Points of Contact

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