

**Redesign of B-107 Computer Lab
South Campus
Florida Community College at Jacksonville**

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Project Summary

The Network and Systems Technology Department of the South Campus of Florida Community College at Jacksonville shall create a new computer environment in the B-107 Computer Lab. This document describes the design and methodology that shall be used to create the new environment. The completed work shall include:

- New floor plan in the B-107 Lab, including 27 workstations and 1 teaching station.
- New distribution of operating systems on the Workstations and Teaching Station, including Windows XP, and Fedora Linux within a Microsoft Virtual PC.
- New layout of network cabling and power supply cabling.
- Migration of all servers into a dedicated Server Room adjacent to B-107.
- Custodial cleaning of the B-107 Lab, including Tables and Carpet.

Significant Milestone Target Dates:

- July 14, 2006 Complete Methods and Procedures design and documentation.
- July 28, 2006 Complete system image installations on all **installed** Workstations.
- August 11, 2006 Complete physical layout of all Workstations and Furniture.
- August 11, 2006 Complete all custodial cleaning.
- August 18, 2006 Complete all network cabling and power supply cabling.
- August 18, 2006 Complete system image installations on **all** Workstations.
- August 18, 2006 Complete software installations on Teaching Station and Servers.
- August 28, 2006 Start 2007 Fall Semester. Lab in Service.

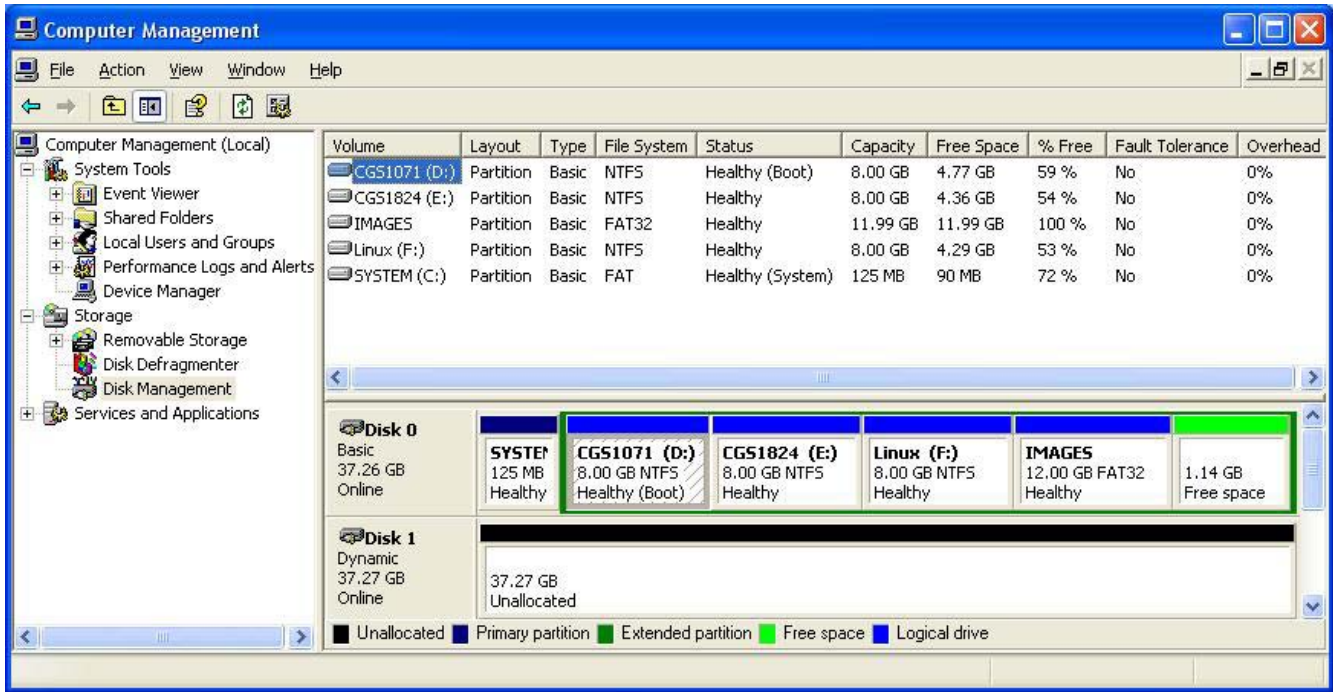
Imaging Methodology and Procedures

1. Create a Master Image on one workstation. The Master Image will include the Operating Systems and Hard Drive Layout as detailed below in this document.
2. Install a Ghost Server on the B-107 LAN and copy an entire Hard Drive Image from only Disk 0 of the Master Image workstation to the Ghost Server.
3. Multicast the Master Image from the Ghost Server to only Disk 0 on all target workstations on the B-107 LAN and install that Image on those target workstations.
4. Apply unique computer names in the CGS1071 partition and the CGS1824 partition to each target workstation to eliminate any name conflicts.
5. Make individual Ghost Images of the System partition, the CGS1071 partition, the CGS1824 partition and the Linux partition on Disk 0 of each of the target workstations to the local Images partition on Disk 0 of each workstation. These Ghost Images must include the unique computer names that were applied in the previous work step above.
6. Ensure that the Ghost Image of the Linux partition was successfully installed on Disk 0 in the local Images partition from the Master Image workstation.
7. Delete any and all partitions that may exist on Disk 1 and ensure that Disk 1 contains only un-partitioned free space.
8. Test the target workstations by:
 - Logging into each workstation and ensuring that the CGS1071, CGS1824 and Linux partitions are mounted on their correct Drive Letters on Disk 0 and that the operating systems that are installed are operational.
 - Validating that each workstation has the correct unique computer name in the Windows XP operating systems that are installed on both the CGS1071 and CGS1824 partitions.
 - Validating that the Images partition on Disk 0 of each workstation contains the correct local Ghost copies of that workstation's System, CGS1071, CGS1824 and Linux partitions.
 - Validating that Disk 1 (the second hard disk) contains only completely un-partitioned free space.
 - Altering the filesystems of the System, CGS1071, CGS1824 and Linux partitions and then successfully re-installing the System, CGS1071, CGS1824 and Linux partitions from their respective Ghost images that have been copied locally into the Images partition on Disk 0.

Technical Errata

Workstations	Dell Dimension 360 with two Hard Drives
Dell Drivers	Available and already installed on master image machine
Boot Loader	Windows Boot Loader, Dual booting 2 operating systems
Operating Systems	Windows XP Professional on each boot
Administrator Passwords each Windows XP operating system	CGS1071 and CGS1824 (all capital letters) respectively for
Root Password	CGS1071 for Fedora Linux
Distribution Tools	Symantec Ghost
Workstation Naming Convention	b107-02, b107-03, b107-04 through b107-28
Workgroup Name	B107-WORKGROUP, No Domain Membership
V-LAN Configuration	Single V-LAN only
Workstation IP Addresses	All Workstations shall be DHCP Clients
LAN IP Address	192.168.107.0 / 24
GhostServer IP Address	192.168.107.250 / 24

Hard Drive Layout



Disk 0

C: Drive Primary Partition shall be FAT, 125 MB, labeled SYSTEM, and shall be the System Drive with a Windows boot loader. The boot loader shall support dual booting of the D and E drives. The C: Drive shall be the only primary partition on Disk 0.

Extended Partition: All of Disk 0 excepting the C: Drive Partition shall be contained within an Extended Partition.

D: Drive Logical Partition shall be NTFS, 8.00 GB, labeled CGS1071, shall be bootable, and shall contain the Windows XP Professional operating systems.

E: Drive Logical Partition shall be NTFS, 8.00 GB, labeled CGS1824, shall be bootable, and shall contain the Windows XP Professional operating systems.

F: Drive Logical Partition shall be NTFS, 8.00 GB, labeled Linux, shall not be bootable, and shall contain a Microsoft Virtual PC virtual machine.

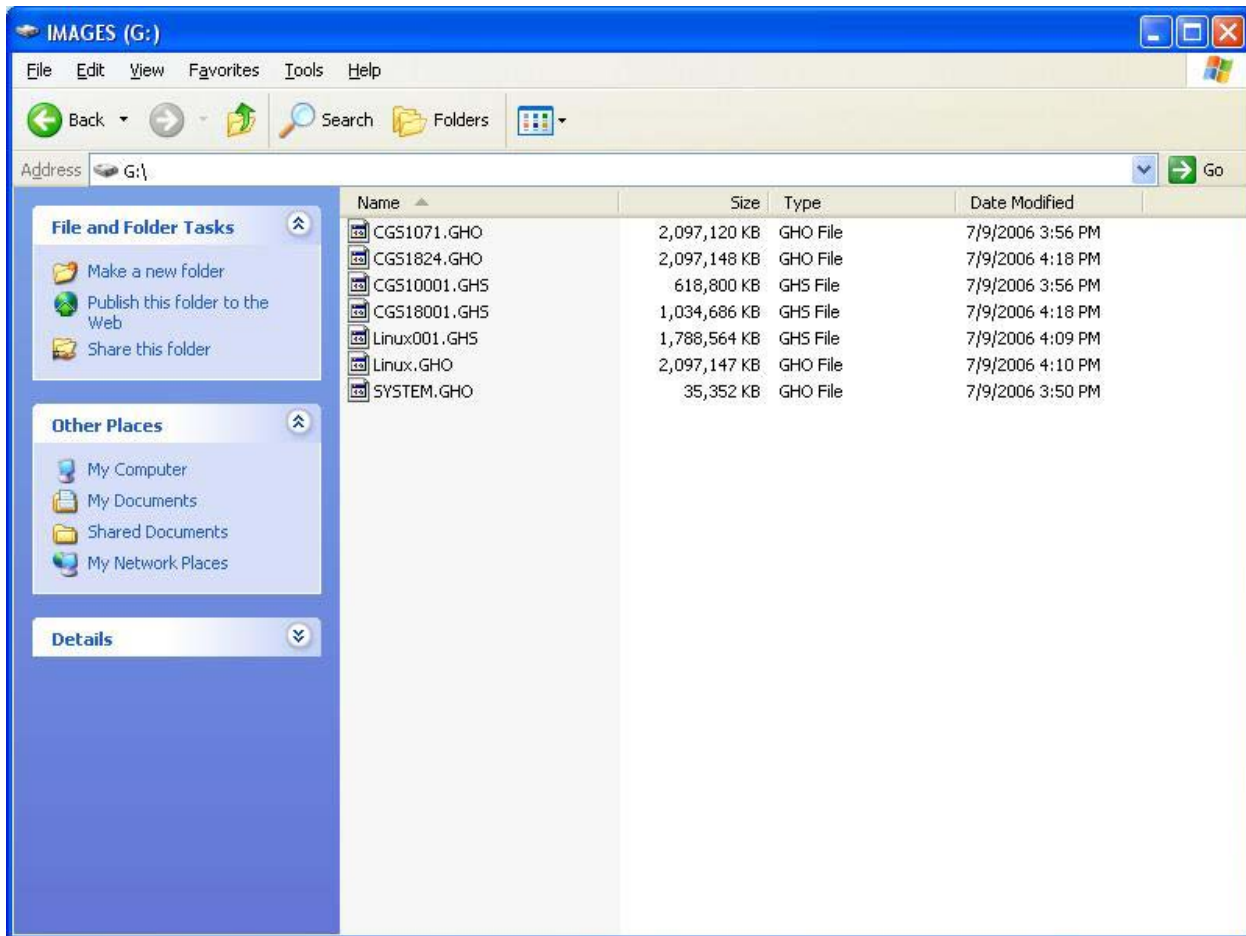
Images Logical Partition shall be FAT 32, 11.99 GB, shall be labeled Images, shall not be assigned a Drive Letter, and shall contain Symantec ghost images.

The remaining 1.14 GB of Disk 0 shall be un-partitioned free space.

Disk 1

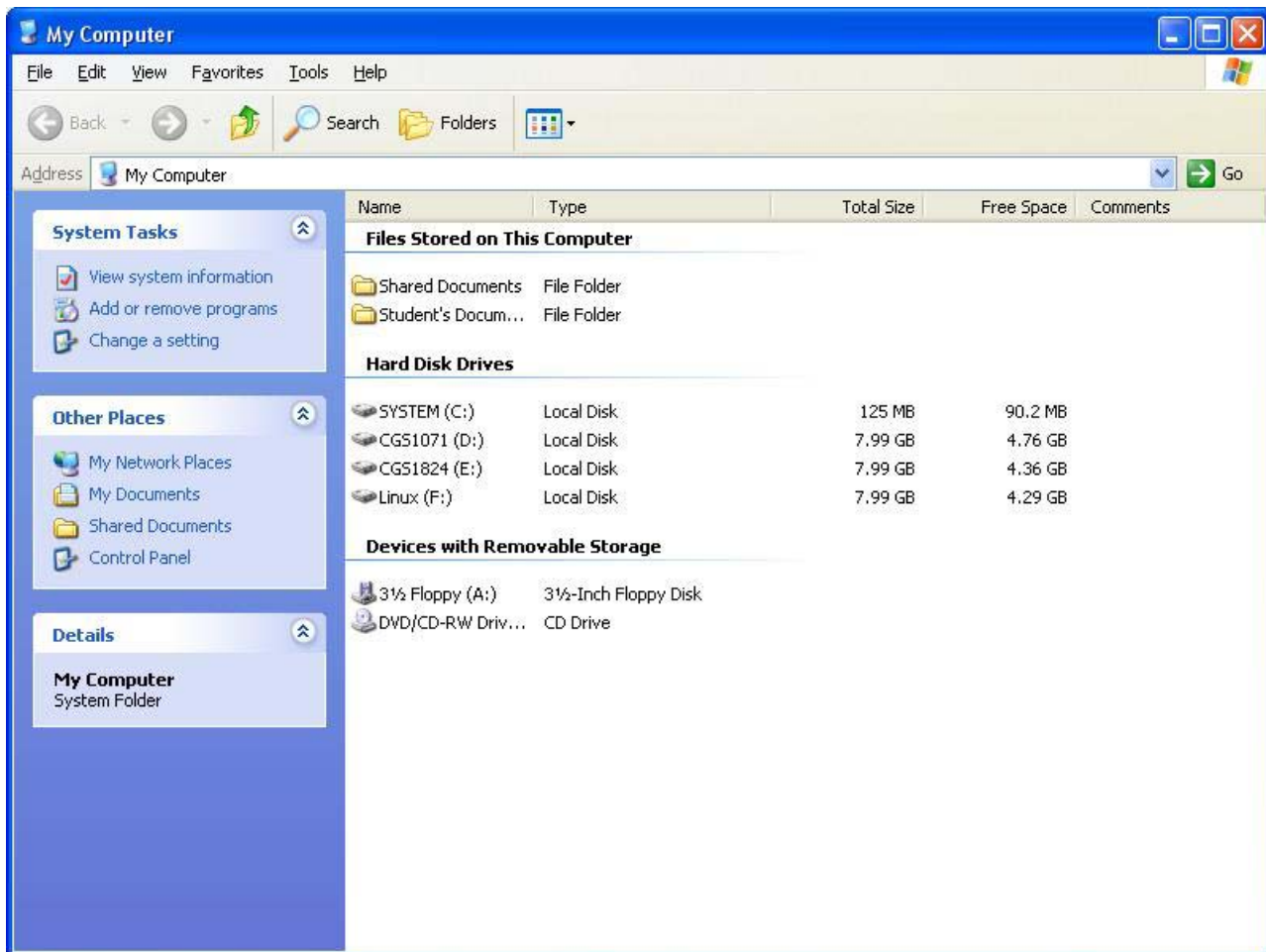
All of Disk 1 shall be un-partitioned free space.

Local Images Partition showing Ghost Image Files



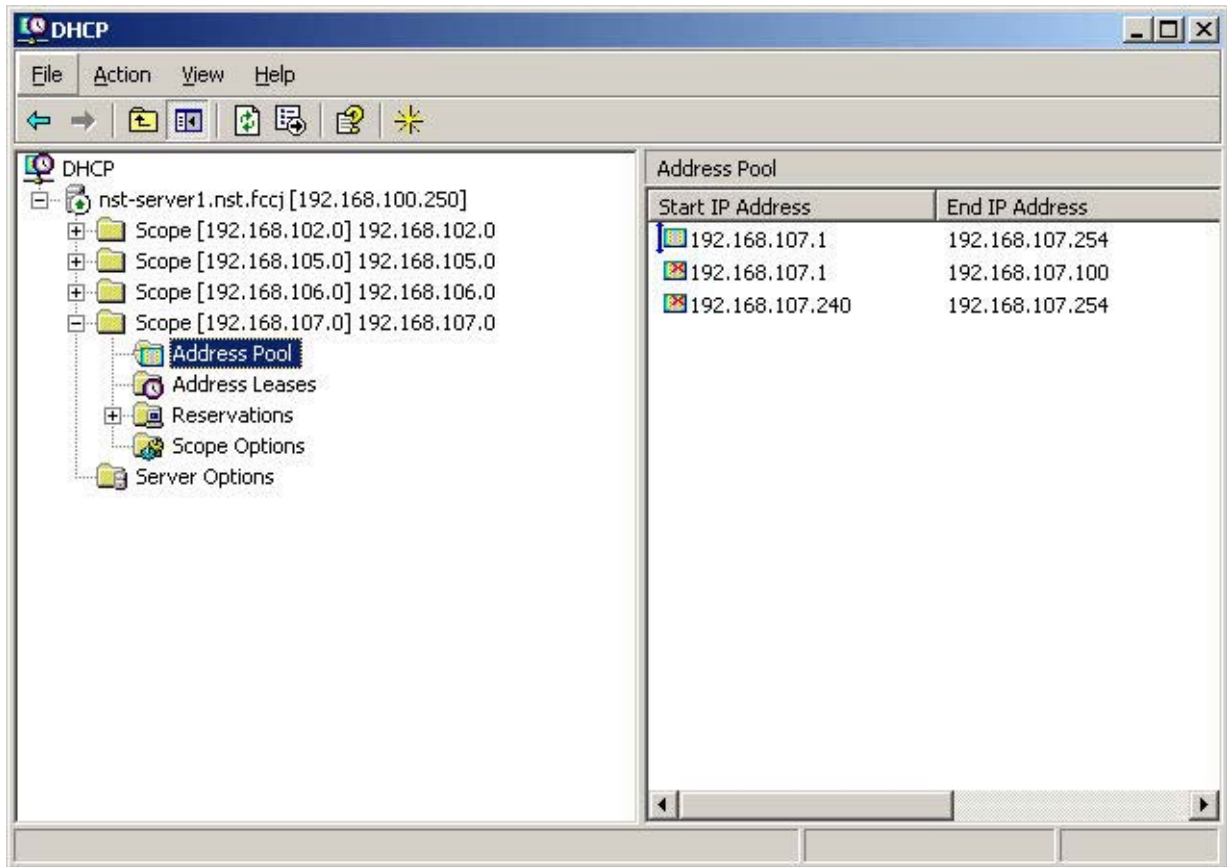
2.68 GB of free space remain on the Images partition (or 22% of the original 11.99 GB available).

My Computer Layout

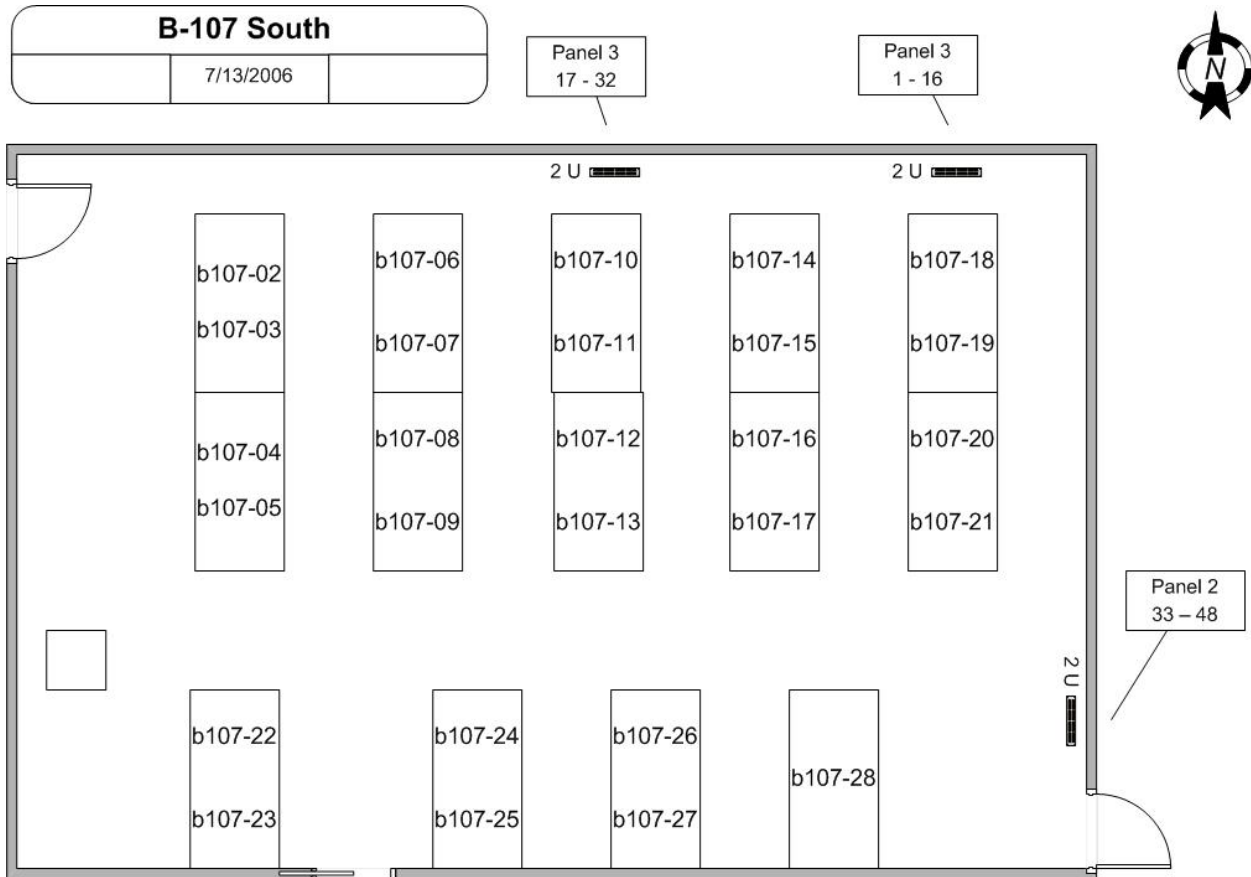


Note that the Images partition **has not** been assigned a Drive Letter.

DHCP and Static IP Address Pools on the 192.168.107.0 / 24 LAN



B-107 South Floor Plan



The computer names of all workstations are shown on this floor plan, with two workstations per table, for a total of 27 workstations. Note that the naming convention is consecutive and orderly, starting with b107-02 and proceeding through b107-28.

B-107 South Lab Floor Plan

