

# CLPCCD DISASTER RECOVERY

## INTRODUCTION

This document discusses CLPCCD's disaster recovery plan.

The objective of the CLPCCD disaster recovery plan (DRP) is to protect and safeguard the District's information technology resources to include the network infrastructure, servers, applications, and data and ensure the ability to function effectively and ensure business continuity in the event of a severe disruption to normal operating procedures. This disaster recovery plan documents methods for response, recovery, resumption, restoration, and return after severe disruption.

A disaster is defined as the occurrence of any event (natural or man-made disaster) that causes a significant disruption in the District's information technology capabilities. The purpose of a disaster recovery plan is to minimize the effect a disaster will have upon on-going operations and to provide a systematic guide from disaster to recovery.

## SCOPE

The disaster recovery plan described in this document pertains to information technology resources owned and managed by the District office including Chabot College and Las Positas College. These resources are as follows:

- Network infrastructure includes the telecommunication circuits, firewall devices, routers, switches, and cabling.
- Servers are the hardware devices that process the applications and store the data used by District employees. These servers include the Banner system, e-mail, internet, intranet, applications, file sharing, network authentication, DNS, DHCP, and network management.
- Data could be stored either in the servers or on storage area networks (SANS) and includes documents (Word, Excel, Powerpoint), e-mail correspondences and attachments, system-related files, web content, and application programs.

## Disaster Recovery Status

- **UPS for Backup Power**

CLPCCD has installed Uninterruptible Power Supply (UPS) systems at Chabot College data center (bldg 300), Las Positas College data center (bldg 1900), and at the District office. For the new data center being built at LPC and the renovations of bldg 300 at Chabot college, there are plans to install UPS devices and generators.

As of today, a critical server resource is the Banner system. Banner, which is the ERP system that processes student and employee information, is hosted on IBM Enterprise servers at Chabot College computer room, 312. The IBM servers in the computer room are connected to a large UPS system, which will power the servers (and the computer room) for approximately one hour.

The Novell and Windows servers that provide application services (web, e-mail, file sharing, network logon) for Chabot employees are located in room 312 and are connected to the UPS device.

The core network infrastructure servicing Chabot are also connected to the UPS device in room 312.

At the District office, a UPS device is installed to power the network, PBX, and servers in the event of an electrical power failure.

At LPC, a UPS device is deployed to power the network and servers in the event of a power failure.

#### **- Data Backup and Offsite Storage**

IBM Banner:

- The operations staff backs up the IBM server data nightly Monday through Thursday. These backups are stored in a fire proof vault in a different building on the Chabot campus. Each Friday evening, a full backup is done. The Friday night backups are taken offsite to the District office each Monday and brought back the following Monday.

Novell Servers:

Employee data stored in the Novell servers at Chabot, LPC, and District office are backed up using a combination of disk-to-disk and disk-to-tape. Some backup is done automatically on a scheduled basis while most are done on an ad-hoc basis.

A more comprehensive and fully automated backup system will be implemented by October 2007. HP Ultrium tape drives and Syncsort backup software were recently purchased and will be installed. Refer to the document, "CLPCCD Data Backup."

#### **- Network Redundancy**

As mentioned earlier, the core network devices serving Chabot, LPC, and District office are located in server rooms with UPS. Further, the core network switches for LPC and Chabot contain dual power supplies and redundant supervisor modules. In the future, a redundant fiber backbone will be installed to provide the colleges a redundant network path.

## - **Application Redundancy**

A critical Banner application is Class Web. This system is used by students to search for and register for classes. Class Web is currently hosted on two Internet Native Banner (INB) servers. The two servers are:

INB3 - 172.28.4.23 (Live Master Server)

INB2 - 172.28.4.22 (Backup Server not live)

The backup INB2 server is kept in sync with the master INB3 server by use of a nightly script. The INB2 server's purpose is to be a stand-by backup to the live INB3 server.

The Banner INB icon on user's desktops points to a generic URL address of `inb.clpccd.cc.ca.us`. This address is mapped to the Live Master INB server which is currently INB3 by use of DNS.

If the INB3 server becomes unavailable, the users can immediately start using the backup INB2 server by bringing up a browser and typing "inb2" in the URL address. Another way to have the users use the backup server is for the ITS Department to change the DNS host file and map the generic address of `inb.clpccd.cc.ca.us` to INB2.