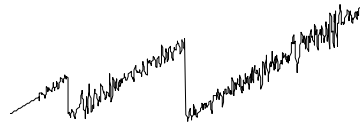CU-NEES-07-4

NEES at CU Boulder

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The George E Brown, Jr. Network for Earthquake Engineering Simulation

Data Backup Policy

By

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1. Introduction

Data integrity and longevity is of utmost importance at the University of Colorado, Boulder NEES equipment site. A combination of redundant spinning disks, automated tape backups, and managed backup services is utilized for achieving data integrity.

2. Data Flow

Table 1 shows how data flows through the CU NEES equipment site. The first column lists primary data sources we have at our site. Typically data from the source is stored immediately (within minutes) to the initial storage location, typically a spinning disk. CU NEES policy requires that all data be copied from its initial storage location to a secondary storage location on the same working day which the data was created. Research and internal documents are transferred to a RAID 5 disk array in our secure server room. All data is automatically transferred nightly to the on-site backup location shown in the fourth column of Table 1.

This backup is written on our NEES automated tape library or the civil engineering department's tape library. Due to the overall redundancy of our data flow and physical distribution of the data storage locations, an off-site backup is only performed on weekly intervals. As shown in the fifth column of Table 1, off-site backups are stored at a variety of locations. For research data, internal documents, and internal software development, a set of tapes containing full and incremental backups are stored at the I/T manager's house. Video data is stored off site at the NEEScentral archive. Financial records are backed up on the departmental server in a different physical wing of the building.

Table 1: Data and Backup Flow

Data Type or Source	Initial Storage Location	Secondary Storage Location	Backup Location	Offsite Backup
MTS Controller DAQ	MTS Host Computer	NEESDAQ RAID File Server	PowerVault 124T Tape Library	Tape Stored at I/T Manager's House and NEEScentral "Raw Data"
Hybrid DAQ	Hybrid DAQ	NEESDAQ RAID File Server	PowerVault 124T Tape Library	Tape Stored at I/T Manager's House and NEEScentral "Raw Data"
FlexTPS Video	NEESTP	NEESDAQ RAID File Server	PowerVault 124T Tape Library	Tape Stored at I/T Manager's House
MiniDV Video	MiniDV Tapes	Processing computer (Creede)	MiniDV Tapes	Media delivered to researcher and NEEScentral "Raw Data"
CU NEES Team Internal Documents	Personal Workstations	NEESDAQ RAID File Server	PowerVault 124T Tape Library	Tape Stored at I/T Manager's House
Financial Accounting Records	Personal Workstations	Campus PeopleSoft System	Departmental Server Tape Backup	Departmental Server
Email and Calendar Data	Personal Workstations	Campus Exchange Server	Campus Exchange Server	Campus Exchange Server