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The Geography Department at Central Michigan University contains an undergraduate meteorology concentration supported by three meteorology faculty. In summer 2003 the meteorology lab upgraded its ten computers to Red Hat Linux PCs running GEMPAK, McIDAS, and Vis5d. The system received its heaviest use during class time and for homework assignments and case studies. Several problems became evident with the new system as it became more heavily used: There was a lack of server storage space, data throughput from the lab to the server running the LDM and serving data was slow; and the system did not have a regular backup strategy in place. In the summer of 2004 we received a Unidata equipment award. The funds from this award were used to purchase a dual processor Dell RAID server containing six gigabit Ethernet ports running Red Hat Enterprise Linux, a SDLT tape drive, 20 tapes and backup software. This upgrade has led to a significant improvement in our lab. Students are able to download large amounts of data for case studies (mostly COMET case studies containing data viewable by GEMPAK) and undergraduate research programs without worrying about running out of server space. In addition, student data, which is NFS mounted to the new server machine, is automatically backed up frequently. Being able to split Ethernet connections between several interfaces has improved throughput noticeably, especially when it comes to accessing large amounts of GEMPAK data via NFS.

The new Dell server handles data ingestion and decoding without breaking a sweat, and allows us to keep data around for weeks rather than days before scouring. This is useful for the analysis of timely weather events in the classroom.

Since the upgrade students heavily utilized GEMPAK (specifically GARP) for their case studies in Mesoscale Meteorology, and for analyzing model data in Numerical Weather Prediction. Efforts are underway to get students trained on the IDV software which we believe has the potential to become the main data analysis tool used in the classroom.