

**ENTERPRISE BUSINESS CONTINUITY AND DISASTER
RECOVERY PLANNING
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CONTINUITY AND DISASTER RECOVERY**

ABSTRACT

The mission of North Carolina State University is to serve its students and the people of North Carolina as a doctoral/research-extensive, land-grant university. Through the active integration of teaching, research, extension, and engagement, North Carolina State University creates an innovative learning environment that stresses mastery of fundamentals, intellectual discipline, creativity, problem solving, and responsibility. In response to this mission, NC State University has adopted a coordinated and integrated business continuity and disaster recovery planning and response process that positions the University to quickly and effectively manage and resolve emergency situations that impact mission critical operations and services. This modular and flexible process has enabled a dynamic situational response to crises that is achievable and sustainable.

Since 1987, NC State has implemented business continuity and disaster recovery principles using the best practices recommended by the Disaster Recovery Institute. Business continuity and disaster recovery has become common business practice at our University. NC State University achieved something that not many universities of our scope were able to and that was implement an enterprise business continuity program that was expanded from recovery of critical information technology functions. Business continuity and disaster recovery plans have a short shelf life and require regular reassessment and update. More importantly, critical staff must maintain awareness of requirements, resources, capabilities and options. In a crisis situation immediate command of all response elements is essential—quick thinking and action require preparedness.

INTRODUCTION

NC State University was founded March 7, 1887 and is located in Raleigh, North Carolina. Our student population is 29,637, with a faculty population of 1,685, and administrative staff of over 6,500. Colleges at NC State include Agriculture and Life Sciences, Design, Education, Engineering, Natural Resources, Humanities and Social Sciences, Management, Physical and Mathematical Sciences, Textiles, and Veterinary Medicine.

PROBLEM / INITIATIVE

From 1987 to 2001, Business Continuity and Disaster Recovery Planning efforts were decentralized. The scope was limited to recovery of critical administrative computing functions, environmental health and crisis communication. In March 2002, NC State's Chancellor expanded the scope of disaster recovery planning to enterprise wide planning. The Department of Business Continuity and Disaster Recovery was established to oversee and facilitate the development, testing, and maintenance of business continuity and disaster recover plans for the entire campus: over 390 business units.

To facilitate the coordination of all University business continuity and disaster recovery efforts and related issues, the University adopted a coordinated and integrated business continuity and disaster recovery planning and response process that positions the University to quickly and effectively manage and resolve emergency situations that impact mission critical operations and services.

DESIGN

NC State was well underway with implementing a strong disaster recovery infrastructure for the recovery of critical administrative computing functions. After the terrorism attacks on September 11, 2001, the NC University System Office of President required all universities to identify critical functions and develop business continuity plans for recoverability and sustainability. The Chancellor of NC State University proactively created a planning committee to oversee university wide planning. At present, NC State University has two dedicated resources to business continuity planning: Director of Business Continuity and Disaster Recovery who is in charge of campus wide planning and an IT Disaster Recovery Coordinator who is in charge of disaster recovery planning of Administrative Information Technology. A core program component has been to define mission-critical functions as those processes that would result in the University not meeting core obligations and commitments without them. Consideration included potential impacts on the safety of resident and non-resident students, faculty, and staff; the preservation of property and facilities; academic and research activities; and financial operations. The Planning Committee charged the department heads with identifying Cohort Coordinators to work with the Department of Business Continuity on the planning efforts. Recommendations were given to department heads to include business continuity planning as a part of employee work plans.

A business case was developed identifying the scope and from that a high level project plan was created with tasks, resource projections, and estimated time commitments summarized. With over 390 academic and administrative business units, a methodology

had to be established to prioritize this effort. The approach we choose was to organize cohorts. The cohorts would be the central composites of planning in the areas of Space/Facilities, Teaching and Academic Programs, Academic IT, Administrative IT, Environmental Health and Public Safety, Business Administration Research Programs, Student Affairs, and Extension and Engagement. In essence, every administrative and academic business unit and college would fit in a cohort. The administrative units were already accustomed to disaster recovery planning of critical administrative information technology systems. Our biggest challenge would come from the academic units.

Academic units found it difficult to identify resources to allocate to this business case. Our biggest challenge has been to convince the faculty and staff that the return on their investment would be worth the dedication of man hours in the planning stage. While we received some resistance from the academic and administrative business units, we were still able to accomplish our tasks. Marketing the business continuity program would be essential! Presentations were made to management including Department Head meetings, University Executive Officers Meeting, Dean's Council Meeting, and University Business Officers Meetings. In addition, a website dedicated to enterprise business continuity planning and a listserv for campus email communication were established. A pilot program encompassing select administrative and academic departments was established to ensure that the templates were meaningful and applicable to the scope of NC State, offer us a time estimation on how long it would take to work with a department, and provide useful feedback on how receptive the other campus

departments would be. Before jumping right into the planning process, it was helpful to meet with the business units first and explain the process that would be involved.

IMPLEMENTATION

Before beginning development of business continuity plans, a risk assessment was needed to identify the threats and vulnerabilities the university faced. In 2001, an IT Risk Assessment was done, but the university had never participated in an enterprise-wide risk assessment. Very few automated tools are customized with risk assessment questions that relate to a university environment, therefore it took months of contacting peer universities requesting feedback on customized questions for a risk assessment in addition to using question samples from private industry. Using a simplistic rating scale was desirable (low, medium, high, or 1, 2, 3) when comparing probability of occurrence versus impact. The Risk Assessment included questions concerning Natural, Technical, and Human Threats. It also included assessing the Department, Research and Laboratory, Continuity Planning and Technical Infrastructure. The most effective way to communicate the template would be electronically. Training sessions were held with each department on the use of the template and a 30-day time frame was requested for its completion.

After a business unit completed their risk assessment questionnaire, the results are reviewed by the Director of Business Continuity and IT Disaster Recovery Coordinator for strategy suggestions. Those were shared with the business unit and Department Head. The results of the risk assessment are used as a starting point for the development of

business continuity plans. Example strategies were third party/vendor resources, reciprocal agreements, and operational controls. Helpful resources were the internet, disaster recovery and contingency planning magazines, feedback from peer universities and agencies. NC State choose to conduct biannual risk assessments.

The administrative computing environment had currently been working for over 3 years with twenty-eight business units on business continuity planning that dealt with the loss of computing and networking functions. A template had already been established, but was limited in scope. With the expanded scope of enterprise planning, the template was changed to include other business continuous sections. The new template was pre-populated with the data from the old so that the business units that had already been involved in IT planning would not have to start from scratch. Working with the business units in the development of the business continuity plans took between 1 – 3 months which involved some face-to-face meetings and independent development time within the departments. A sample plan was also presented to each business unit as a guide to follow.

Another challenge was how to establish a central repository to promote true enterprise business continuity planning. During Y2K, the State of NC Office of Information Technology Services purchased an enterprise-wide business continuity planning tool that was free to all state agencies and universities to use. NC State began using the tool in 1999 and has expanded its' use over the years. This central repository is used to store all

business continuity and planning information for all administrative and academic business units for NC State University.

Recommendations were to the campus business units to update the entire plan annually, however, call trees and changes in processes should be made to the plan at least quarterly or upon notification of the change. Identifying response teams is a crucial part of the planning phase. Many departments had not identified response teams or responsibilities in the event of a business disruption. The Department of Business Continuity worked with the business units to help create response team members and identification of roles.

BENEFITS

Enterprise solution to business continuity planning enables NC State University to more effectively manage disruptions to critical functions. NCSU has a central office that manages campus wide planning, a central repository to store plan information, and dedicated resources to implement business continuity planning principles. Our governing body, the Office of the President and the NC State Auditors have a more effective way of monitoring our planning process and the campus community is more educated on business continuous practices. Business units with like processes now have the ability to share resources and encourages teamwork. NC State is practicing due diligence as we are continuing to document vulnerabilities and threats and developing controls to manage them.

RETROSPECT

If given the opportunity to start over, we would have incorporated business continuity planning at the same time as disaster recovery planning. You cannot recover one without the other. Another lesson learned was to keep the templates that are used in planning simple and the terminology consistent. When working the different departments and colleges, many of them have minimal knowledge of business continuity planning and some of the terminology can be confusing. Industry terminology can change year to year. The Department of Business Continuity had a hard sell for the academic colleges when requesting their support. You must be prepared for schedule delays, and limited cooperation with faculty.