



Disaster Preparation and Business Continuity



APPA Institute for Facilities Management
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Course Description

This session will explore issues, challenges and considerations needed to develop a business continuity and disaster recovery plan for telecommunication and information systems. This session will examine key components of a business continuity plan from risk assessment to risk mitigation. Participants will examine various risk scenarios and examine response options that can be used to develop recovery plans.



Facilitator

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Class Logistics

- Be sure to sign the sign-in sheet being passed around the room.
- Make yourself comfortable. If you need to leave for a short break quietly exit and return.
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- APPA wants to make this experience valuable to each and every one of you. We do this by gathering your feedback. Remember to fill out your course feedback forms.



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Questions related to specific materials, methods, and services will be addressed at the conclusion of this presentation.



Learning Objectives

- To understand the relationship between emergency preparedness and response (ER), disaster recovery (DR) and business continuity (BC) planning
- To identify, assess and prioritize critical functions, vulnerabilities and risks
- To evaluate various strategies for post disaster recovery and business continuity and restoration
- To raise awareness of each individual's role in preparing business continuity strategies and roles.

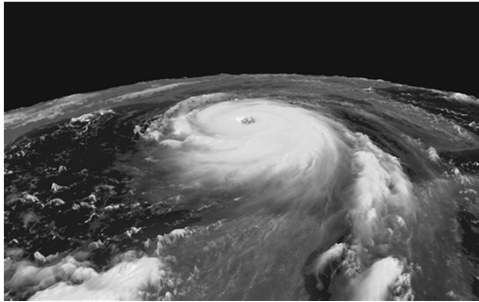


Why have a plan?

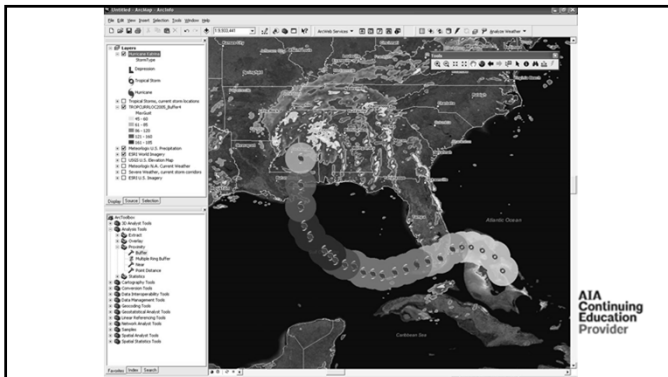
Can you anticipate the unexpected?

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Hurricane Katrina at Category 5



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Why are BCP and DRP Important?

- BCP reduces the impact of adverse events and helps to rapidly restart our critical functions.
 - If staff are unavailable – who will do the work?
 - Is a system or records are gone – how do we operate?
 - If a specific building cannot be used – where do we go?
- Having a plan inspires calm instead of panic.

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Planning for Continuity of Operations

- Disaster Recovery Plan
 - The process, policies and procedures that are related to preparing for recovery or continuation of technology infrastructure which are vital to an organization after a natural or human-induced disaster.
- Business Continuity Plan
 - Identifies an organization's exposure to internal and external threats and synthesizes hard and soft assets to provide effective prevention and recovery for the organization, while maintaining competitive advantage and value system integrity
- Emergency Preparedness
 - Activities to reduce and prevent death, injury, and loss of property/assets thru prevention and mitigation measures
- Risk Management
 - The forecasting and evaluation of financial risks together with the identification of procedures to avoid or minimize their impact.

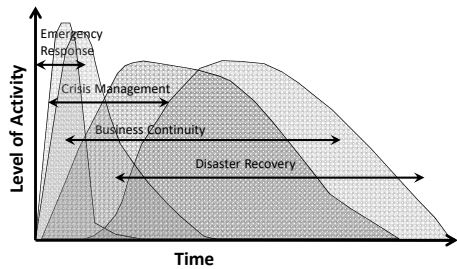
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Responding to an Event

- **Emergency Response**
 - Emergency services and rescue services that are deployed in response to ad hoc emergencies to ensure public safety and health during different emergencies and crisis.
- **Crisis Management**
 - Actions to cope directly with crisis-events to protect people and property
- **Business Continuity**
 - Activities to restart teaching, research, and other mission-critical functions after crisis-events
- **Disaster Recovery**
 - Activities to recover and restore technologies and infrastructures that are vital to an organization after a natural or human-induced disaster.

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Phase of Responses



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The Plan



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Find a Toolkit or Template

- San Jose State University uses a popular Business Continuity Planning Toolkit that many other colleges and universities use for their planning that is on the website.
- Many States require public universities and colleges to have business continuity plans. Many North Carolina Colleges and Universities have examples on their websites.

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Excellent Examples

- San Jose State University http://www.sisu.edu/adminfinance/about/business_continuity/
- Yale University <http://emergency.yale.edu/planning/business-continuity-planning>
- Marquette University <http://www.marquette.edu/business-continuity/training.shtml>
- Indiana University <http://protect.iu.edu/emergency/bcp>

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DR Planning Process – 10 Steps from DRII

- Project Initiation and Management
- Risk Evaluation and Control
- Business Impact Analysis
- Developing Business Continuity Strategies
- Emergency Response and Operations
- Developing and Implementing Business Continuity Plans
- Awareness and Training Programs
- Maintaining and Exercising Business Continuity Plans
- Public Relations and Crisis Coordination
- Coordination with Public Authorities

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Today's Activities

- Learn by Doing – Group Exercises
 - Threat Assessment
 - Business Impact Analysis
 - Develop Recovery Strategies

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Threat Assessment

- Determine what business interruption events (threats) and the probability of each that can adversely affect your organization and what controls are currently in place to eliminate or mitigate each risk.

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Threat Assessment: Exercise

- List various types of disasters and crises that might disrupt business operations.
- For each item on the list, classify the scope of impact on operations. Scope: Regional, Campus wide, Limited, etc.
- Finally, rank the threats by probability of the incident occurring.

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Threat Assessment Template

Type of Disaster or Crisis	Scope of Impact (Regional, Campus Wide, or Limited)	Probability

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Discussion - Threat

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Business Impact Analysis (BIA)

- Estimates the financial and operational impact all credible disruptive events would have on your day-to-day business. It also identifies critical processes/applications/ systems, the people who use and support them, and the risk tolerance for each. The BIA allows you to define the target of your BC/DR Plan.

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(BIA) - continued

- Identifying your BC/DR Plan Target
 - Locate and identify key stakeholders
 - Identify and prioritize critical applications & data
 - Identify the impact (in \$\$\$) of the loss of critical applications & data over time.
 - Identify the level of risk assumption for each critical application and data



Business Impact Analysis: Exercise

- On your Business Impact Analysis Worksheet, list the systems and functions that are routinely used in the operation of your organization/department.
- For each system and function, classify the function as either: Critical, Essential, Necessary, or Desirable.
- Estimate the daily cost to your organization if this function were not performed following a disaster.



Sample BIA Template - SJSU

Mission-Critical/ Essential Functions	Business Impact*	Maximum Allowable Downtime	Time to Restore	Priority in Restoration	Contacts		*Business Impact Key: A - Completion of meeting? B - Completion of research? C - Loss of ability? D - Loss of staff? E - Loss of customer? F - Withholding of faculty/staff affects? G - Withholding of student affects? H - Payroll affects events or by campus? I - Loss of revenue to campus? J - Regulatory obligations met or by campus? K - Loss to the University? L - Loss of reputation? M - In part on post-incident protection or recovery? N - Data collected prior to the event is recoverable? O - Data available or collected after the event is recoverable? P - Additional costs incurred to recover/reconstruct data or functionality?
					Lead Contact	Process Owner(s)	



Discussion - BIA

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Common Categories of Essential Functions Lost in a Disaster

- Loss of Human Resources
- Loss of Facilities
- Loss of Technology
- Loss of Public Services
- Loss of Equipment
- Others?

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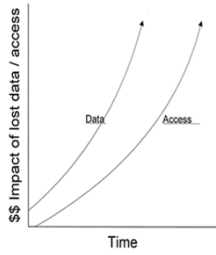
From Blue Ridge Community College BCP

BIA – Recovery Strategy

- Identify the "Recovery Time Objective" (RTO), i.e., the maximum amount of time allowed without access to each critical application & data.
- Identify the "Recovery Point Objective" (RPO), i.e., the maximum amount of data loss (usually measured in time) allowed for each critical application.
- RTO and RPO can be put on a time vs. \$\$ business impact sliding scale, and a time vs. \$\$ BC/DR cost sliding scale.

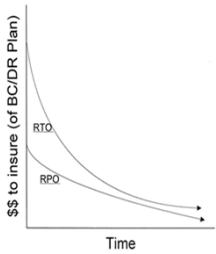
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(BIA) - continued



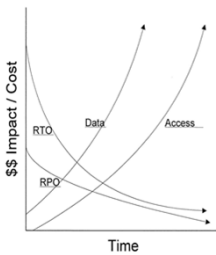
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(BIA) - continued



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(BIA) - continued



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Develop Recovery Strategies:
Exercise

- From your list of systems and functions, choose several high priority systems and develop a list of recovery strategies for each of them.

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Discussion - Strategies

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Business Continuity Strategies

- Accept Risks with Contingency Plan
- Insure the Risks
- Avoid – Eliminate Hazards
- Mitigate – Extra Precautions
- Backups and Backup Systems
- Replicate/Duplicate Systems
- Share the Risks with a Partner or Vendor

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Additional Considerations

- Crisis Response Team
 - Critical Person Inventory
 - Notification Checklist
- Business Recovery Work Area Checklist
- Critical System Recovery Priority
 - Contingency Plans
 - Critical Vendor Inventory
 - Off Site Stored Materials
 - Service Level Agreements

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Emergency Notification

- Who pulls the trigger – “any business interruption that can not be handled by normal operations procedures” should be evaluated as a reason to execute your BC/DR Plan.
- Alternative Command Centers
- What kind of notification system(s) will you use?
- Who gets notified first, second, etc.

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Awareness Programs and Training

- Create and maintain an institutional awareness program. Success depends upon broad based awareness and understanding of the plan
- Create and maintain training program for all team members and their backups.

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Maintain Your Business Continuity Plans

- Define a review period (Quarterly)
- Maintain good change control procedures
- Keep good inventories
 - h/w (ser. #s), s/w levels/keys, firmware versions, etc.
- Password management – root/admin

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Exercise Your Business Continuity Plans

- Without exercising/testing – you do not have a plan – Annual Spring Break Test
- Establish a Program for exercising/testing
 - E.g., types of tests, periodicity, reporting, etc.
- Define success criteria

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Ways to Exercise Your Plan

- Table Top Exercise
 - Gather the emergency response team
 - Role playing meetings
- Functional Exercise
 - Ex. Recover data from tape
 - Ex. Pull the power to test generator
- Full Scale
 - Ex. Bring online a DR site or system

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Coordination with External Agencies

- Become familiar with the Incident Command System (ICS) in your area.
- Make sure ICS knows about you and get pre-event clearance for your Disaster Assessment Team
- Many ICS groups will review your BC/DR plan/strategy.
- Maintain current knowledge of laws and regulations concerning Emergency Management

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Lawson - Lessons Learned from Katrina

- Communicate, Communicate, Communicate!
- Don't wait for others to do it for you. Take control of your destiny.
 - Use outside firms who are experienced and will jump-start the process.
 - FEMA and Government will be extremely slow to reimburse.
- Prepare your Board for the long haul.

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Lawson – Lessons Learned from Katrina

- Email was brought on-line only for a limited subset of administrators and faculty/staff.
 - Number one internal complaint
- Website crucial.
- Employee registration important (lets them know you care, lets you know where resources are).
- Set application recovery priorities.

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Lawson- Lessons Learned from Katrina

- Advice to DR Planners & CIOs:
 - Email and the web have become the life blood, know their status at all times.
 - Have a thick skin and a soft heart.
 - You will be the hero and the goat – at the same time.
 - Don't be upset at the use of outside resources, facilitate it!
 - Don't be surprised when old partners disappoint you, while others support you.

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Lawson – Lessons Learned

- It is all about people.
- Know what happened to your people.
- Be sensitive to their needs but be honest and forthcoming about the capacity of the institution to recover.
- Remember the stress they are under but help them remember the larger picture of the institution (a delicate balance)

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The Plan – Ours/Yours



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Resources and References

- <http://www.drii.org/>
- <http://www.dri.com/>
- <http://www.fema.gov/>

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Disaster Recovery Institute

- DRI International was founded in 1988 as the Disaster Recovery Institute in order to develop a base of knowledge in contingency planning and the management of risk, a rapidly growing profession.
- DRII administers the industry's premier educational and certification programs for those engaged in the practice of BC planning and management.

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Closing Remarks

- BC/DR Planning is a complex endeavor requiring commitment of time and resources to adequately prepare for the unexpected. Remember that BCP is an ongoing program of activities!
- BC/DR Planning is all about making as many decisions (pre-event) as possible in a calm and thoughtful manner for a time (post-event) when chaos will rule and time is of the essence.

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