It was a dark and stormy....eight weeks!

Maintaining critical IT services during the 2004 Hurricane season

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“With total losses ranging from $5 to $6 million, UCF experienced the largest weather-related losses in the history of the campus. But while hurricane Charley's winds pummeled the campus inflicting structural damage in some locations, and the heavy rains from Frances and Jeanne challenged emergency crews to contain water damage, team members from IT&R remained on site to keep the university's critical IT services running.”

-Information Technologies & Resources news letter, Volume 10, No 2 November 2004

Today’s presentation:

• UCF Facts

• The Storms

• Planning, Preparation, and Lessons Learned
UCF Facts

- Established in 1963 in Orlando, Florida (1968-first classes) – Metropolitan Research University
- Over 42,000 students – 35,200 undergraduate and 7,400 graduate
- Academic Programs - 86 Bachelor’s, 68 Master’s, 3 Specialist, and 24 PhD
- 1,500+ FTE faculty and 3,100 full-time staff
UCF Facts

- One of Florida's 11 public universities
- Located 13 miles east of downtown Orlando
- Main Campus covers 1,415 acres with 117 buildings.
- 2004-2005 Operating Budget approximately $770,000,000
Computer Services and Telecommunications department

- The department of Computer Services and Telecommunications provides a central point of support for all aspects of the university’s computing, networking, and telecommunications. We maintain several public workstation labs located throughout campus as well as a professionally staffed computer store that facilitates the purchase of software or hardware at competitive prices.

- CS&T provides and supports application/systems development, document imagining services, web hosting services, email and academic support services as well as Teledata services; including telephone, cable TV and other communication services.
Department of Environmental Health and Safety (EHS)

- The mission of EHS is to provide a comprehensive health and safety program for UCF. This program supports the educational mission of the university by making the campus a safe and healthful place in which to live, learn, teach, work or visit.
The Storms

- Hurricane Charley - August 9 - 14 2004
- Hurricane Frances - August 25 - 8 September 2004
- Hurricane Ivan - September 2 - 24 2004
- Hurricane Jeanne - September 13 - 28 2004
What is a hurricane, typhoon, or tropical cyclone?

- The terms "hurricane" and "typhoon" are regionally specific names for a strong "tropical cyclone". A tropical cyclone is the generic term for a non-frontal synoptic scale low-pressure system over tropical or sub-tropical waters with organized convection (i.e. thunderstorm activity) and definite cyclonic surface wind circulation (Holland 1993).

- Tropical cyclones with maximum sustained surface winds of less than 17 m/s (34 kt, 39 mph) are called "tropical depressions" (This is not to be confused with the condition mid-latitude people get during a long, cold and grey winter wishing they could be closer to the equator ;-))). Once the tropical cyclone reaches winds of at least 17 m/s (34 kt, 39 mph) they are typically called a "tropical storm" and assigned a name. If winds reach 33 m/s (64 kt, 74 mph), then they are called:

  - "hurricane" (the North Atlantic Ocean, the Northeast Pacific Ocean east of the dateline, or the South Pacific Ocean east of 160E)
  - "typhoon" (the Northwest Pacific Ocean west of the dateline)
  - "severe tropical cyclone" (the Southwest Pacific Ocean west of 160E or Southeast Indian Ocean east of 90E)
  - "severe cyclonic storm" (the North Indian Ocean)
  - "tropical cyclone" (the Southwest Indian Ocean)

Reference - National Hurricane Center website
http://www.aoml.noaa.gov/hrd/tcfaq/A1.html
Hurricane Charley approaches the western Florida coast with winds near 110 mph and higher gusts.
At 7:26 AM EDT, Sept. 5, 2008, Hurricane Frances was over eastern Florida. According to the National Hurricane Center, at 11:00 AM, winds were 80 knots with gusts to 90 knots, and movement was west-northwest at 8 knots.
The center of Hurricane Frances was 50 miles east northeast of West Palm Beach, Florida at 2115Z (5:15PM EDT) and had maximum sustained winds of 105 mph with higher gusts.
Hurricane Jeanne makes landfall near Port Saint Lucie, Florida with winds near 115 mph.
Debris field
Library Damage
Recreation and Wellness Center Damage
## UCF Lost Days Summary

<table>
<thead>
<tr>
<th></th>
<th>Classes Closed</th>
<th>Offices Closed</th>
</tr>
</thead>
<tbody>
<tr>
<td>CHARLEY</td>
<td>2 days*</td>
<td>2 days*</td>
</tr>
<tr>
<td>FRANCES</td>
<td>3 days*</td>
<td>2 days*</td>
</tr>
<tr>
<td>JEANNE</td>
<td>1 day</td>
<td>1 day</td>
</tr>
</tbody>
</table>

* = includes a Saturday

- **Total class days lost = 4 weekdays + 2 Saturdays = 6 days total**
UCF Shelter Summary:

- **CHARLEY**: One night duration (280 people)
- **FRANCES**: 3 nights duration (1000 people)
- **JEANNE**: 2 nights duration (850 people)
<table>
<thead>
<tr>
<th>Event</th>
<th>Emerg. Work</th>
<th>Facility Damages</th>
</tr>
</thead>
<tbody>
<tr>
<td>CHARLEY</td>
<td>$710,000</td>
<td>$2.7 million</td>
</tr>
<tr>
<td>FRANCES</td>
<td>$440,000</td>
<td>$350,000</td>
</tr>
<tr>
<td>JEANNE</td>
<td>$350,000</td>
<td>$70,000</td>
</tr>
</tbody>
</table>
Planning, Preparation, and Lessons Learned

- Planning
  - UCF Emergency Management Plan
  - COOP - Continuity of Operation Plans
- Preparation
- Lessons Learned
- People
Planning

• Plans and Procedures
  – Provide purpose, applicability and scope
  – Describe the Concept of Operations (CONOP)
    • Key Staff, Essential Functions, Direction and Control, Alert and Notification
  – List responsibilities and procedures
  – COOP Plans
  – Communications Plans
  – Building Evacuation Plan (Emergency Action Procedures)
  – Family Preparedness Plan
  – Protection and Safeguarding of Vital Records/Databases

Source: UCF COOP workshop presentation Nov 2003, Jim Uhlir & Susan Kelly Money

• UCF Emergency Management Plan

  – It is the goal of the University of Central Florida (UCF) to ensure that each member of the campus community is provided a safe educational environment. This plan provides specific procedures to follow during emergency situations. In the event of an emergency, please refer to this plan as an informational starting point for any situational responses. Assistance from various university departments and from local emergency agencies was solicited in the preparation of this plan.

Source: UCF Emergency Management Plan 2004 EHS department
Planning (continued)

• COOP - Continuity of Operation Plans
  – Legislative requirement, Statue 252.365
  – Requires business continuity plans to:
    • Include each state agency and facility, such as office buildings and university facilities
    • Contain essential elements for COOP planning
    • Coordinate with county emergency management offices and be approved by State Dept. of Emergency Management

• What is Continuity of Operations?
  – COOP is an effort within individual departments and agencies to ensure the continued performance of minimum essential functions during a wide range of potential emergencies. This is accomplished through the development of plans, comprehensive procedures, and provisions for alternate facilities, personnel, resources, interoperable communications, and vital records/databases

Source: UCF COOP workshop presentation Nov 2003, Jim Uhlir & Susan Kelly Money
The UCF Emergency Plan on Hurricanes:

• Only the University President or the Governor can close the University

• UCF strives to keep our closing decisions in sync with area schools and community colleges

• When emergency conditions arise, Bill Merck, VP for Administration & Finance, is the coordinating official for the UCF response

• UCF EH&S sends out weather information and preparedness advisories once a day if a tropical storm has the potential to threaten Central Florida

Source: Hurricanes Floods, Tornadoes, Lightning presentation, Jim Uhlir & Steve Mammino, June 26, 2003
The UCF Emergency Plan on Hurricanes:

• “Essential Departments” (EH&S, Police, Physical Plant, Housing, Computer / Telecomm Svcs., Business Svcs., Student Health and UCF News) prepare for storm duty

• If shelters are needed, EH&S coordinates their opening with Housing and Police. Other essential departments support this effort. R.A.’s staff the shelters

• UCF News will report on the situation via www.ucf.edu and local media

Source: Hurricanes Floods, Tornadoes, Lightning presentation, Jim Uhlir & Steve Mammino, June 26, 2003
Preparation for 2005

- E-team meetings already taking place to prepare for 2005 Hurricane season.
  - Improving coordination for shelter/operations center logistics and EOC/communication logistics.
- Plans and contact lists have been reviewed and updated.
- Supplies and emergency travel bags have been refreshed.
- Where possible structures have been hardened and infrastructure has been improved/updated (new CSB power supply and UPS, connected to university chilled water loop)
Lessons Learned

• Initiated quarterly meeting with Physical Plant to keep on top of issues and concerns. Will assist with staging and preparations.

• Where possible improved/added systems to provide redundancy and additional capabilities.
  – Now use multiple cell vendors
  – Implemented a new trunk radio system that provides enhanced capabilities
  – Implemented a second BellSouth demarcation point improving the communications system’s ability to survive a disaster.
  – Tested and documented new back up recovery procedures.
  – Implement new Fire Alarm zoning to limit Data Center HVAC shut down during false alarms.
Resources and Communication

http://www.ucf.edu/info/hurricane.php
Lessons Learned (continued)

• If it’s working they will use it
  – Labs, WebCT, Email, CATV

• On going communications and collaboration across the University is a key item to successful response.

• Take corrective actions once a weakness is identified. (Easily identified during these types of events)

• Advanced planning and developing contingency scenarios will always help to mitigate problems, and enable quick and effective responses.

• No matter how prepared you are there is always something that requires more than expected.

• Most valuable assets: People, People, People!
  – Treat them well, develop their skills, and appreciate them. We learned that our people and their skills are the University’s most significant asset. Staff commitment and willingness to stay on site for days at a time provided the ultimate insurance against disaster.
Operations, NOC & Academic Computing

Computer Services and Telecommunications

UCF
E-Team members at EOC
Physical Plant E-Team at EOC
Acknowledgements

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  – Ryan Seilhamer, Special Projects Producer

• UCF news and Information Office
  – Tom Evelyn, Associate Director

• WFTV Channel 9 Eyewitness News, Orlando Florida
References

5. UCF COOP workshop presentation Nov 2003, Jim Uhlir & Susan Kelly Money