Business Continuity and Disaster Recover – UCAR/FRGP

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Quilt Panel
Tom Bogdan, UCAR President, 9/19/13: “Since I came on board as UCAR President in January 2012, our organization has experienced the impacts of blizzards, wildfires, and now flooding. If nothing else, the last 21 months have taught me that managing through the adversity created by natural disasters is incredibly challenging. Every situation is different, and there are no event-specific procedures and best practices that can be consulted in a leisurely fashion at a time when conditions are changing by the minute. Critical awareness of the unfolding situation is often spotty and rapidly evolving, and different sources of information may be in conflict.”
Distinguish between Business Continuity and Disaster Recovery?

• Proactive versus reactive?
• The same – how to prevent, anticipate, and be prepared but in the case of disaster, react?
FRGP BC/DR

• **FRGP Survivability Assessment**
  – Reviewed annually
  – Look for single points of failure and correct or note

• **FRGP Flu Pandemic Plan**
  – Minimalist
  – Patterned after SOX format

• **FRGP Service Level Assurance**
  – Best effort network and services
  – Response time
  – Reporting and monitoring process
UCAR IT Business Continuity Emergency Plan (BCE)

• Triggered by November 2012 power outage that was followed by email and authentication failures (referred to as “network failures”)
  – Tried to keep focused on major business continuity issues: phones, email, IT access (login/authentication)
  – Dependent on Emergency Notification System (ENS) that is still in development
  – Focused on excellent communication separated from technical troubleshooting

• General failure of BC plan at UCAR due to lack of leadership and central responsibility - there really is no overarching BC plan at this time
UCAR needs at minimum a plan that includes

• Who gets together under what conditions
• Who leads the team, and how it is organized
• What the recovery priorities
• How communications will work
• How to spend money and get stuff
• How existing recovery processes are undertaken
• Procedures for declarations
• Key contacts (internal/external)
Other things we need to do

• Develop strategic framework/planning at high level
• Work on tactical pieces during event
• Test the plan!
Boulder Flood 9/9 – 9/15/13

- UCAR and FRGP facilities largely unaffected
  - No network or IT outages during flood
  - Parking lot flooding
  - Minor building water damage
  - Closed UCAR, NOAA, CU during worst of the flooding for safety in transit and uncertain conditions

- Post-flood BRAN fiber issue on Bear Creek
  - Handhole collapsed into creek
  - Primary fiber feed to the Mesa Lab which houses primary email and authentication servers
  - Fortunately exposed major Xcel gas main
  - Repaired within 24 hours of exposure – never went down

- Bi-State Optical Network (BiSON) east ring fiber path failed hard
  - I2, NLR, NWAVE, Level3 fiber feed as well
  - Repaired in less than 12 hours of failure
  - Back-up BiSON ring path held

- Primary Mesa Lab power feeds exposed and destabilized – repaired within a week

- Concern about impacts of flood on fiber for SC ‘13
  - Unknown, but major roadwork will have to occur and expect continued fiber impacts and uncertainties

- EAGLE-Net has much more extensive fiber plant and has fiber at risk but no outages to date – stabilization in progress
UCAR FLA Building
President’s office and all Finance and Administration
UCAR FL4 Building
Community Programs (Unidata)
Boulder Research and Administration Fiber (BRAN)
Boulder Flood Cont’d

• How to prepare for and be more proactive – better than reactive
  – Should we have been more proactive when we installed BRAN and BiSON fiber, in our reviews of the BRAN path, and when the flooding started (more than me taking a casual photo) - more triage
  – Should we walk the entire BRAN path now rather than wait for another failure?
• CU-Boulder has good plan and team and executed well in this and recent data center failure
• Boulder Office of Emergency Management (OoEM) provided timely and relevant information and emergency warning systems work (loud speakers, NWS TV, reverse 911, and cell phone)
  – http://www.boulderoem.org/
• Google maps and Google Crisis Response very interesting
  – http://www.google.org/crisisresponse/
• GIS Applications
  – http://gisweb.ci.boulder.co.us/agswebsites/pds/floodmap/
  – http://gisweb.ci.boulder.co.us/agswebsites/general/iemcop/index.htm
• Great use of drones:
  – http://www.youtube.com/watch?v=S4jdZFHlifU
General observations

- Crisis generally bring out the very best in people and encourage creative thinking, solution discovery, cooperation, and support
- Staffing can be issue
  - Do you have enough people
  - They are dealing with personal issues
  - How many hours can people function effectively
- Life/safety always top priority above business operations
- Getting the right information to the right people in a timely fashion is tricky
  - Tweet was very useful to people trying to get information (many without Internet access but had cell access) – Xcel Energy, the City, etc. had tweet access
  - Visitor factor – don’t know geography or relevant web pages for emergency and weather
  - Intra-UCAR and FRGP communication generally worked, but mostly due to staff diligence
    - UCAR never formally implement BC team/plan
  - How to use technology better
- Difficult to plan for every crisis and each is unique
- Overall Boulder and CU’s BC and flood plans and preventive actions seemed to hold up well
Weather forecast

• “...the weather forecast discussion on Wednesday morning said that the quantitative precipitation forecast was off the charts. The forecaster discounted it as a problem with the model (convection scheme, isn't it always the convection scheme!). I guess it can be hard to predict a big anomaly, though they got it right with the hurricane last year in New York.”

• Would we have done anything different is someone had predicted the 500 year flood?
  – 100 year flood – 1% probability of happening in any given year
  – 500 year flood - .2% probability of happening in any given year
  – We may be around for the next Boulder 500 year flood!!
Other recent BC in FRGP

• CSM fiber cut
• CSM data center failure due to power system failure
• CU-Boulder data center failure due to power system failure
• UW fiber cut
• All triggered offers of help and support
• All resolved quickly
• All back up communication systems seemed to work
  – Redundancy really saves us in a lot of cases
Boulder Flood Photos

- http://www.youtube.com/watch?v=S4jdZFHlifU
- http://www.youtube.com/watch?v=pjs6ve9ksig
- https://plus.google.com/photos/116948897382649602992/albums/5922817302562462737?authkey=COas54_4yMnFHg
- https://plus.google.com/photos/116948897382649602992/albums/5923225932312429041?authkey=Clnk2arCs5SCOA
- https://www.youtube.com/watch?feature=player_embedded&v=CWcJko2cDTO
Questions?

"Parents of the Year award is in the bag for 2013"