

Edith Cowan University

DISASTER RECOVERY WITH VERSATILE INFRASTRUCTURE



Why?



For your organisation.



For you.



It'll never happen to us!

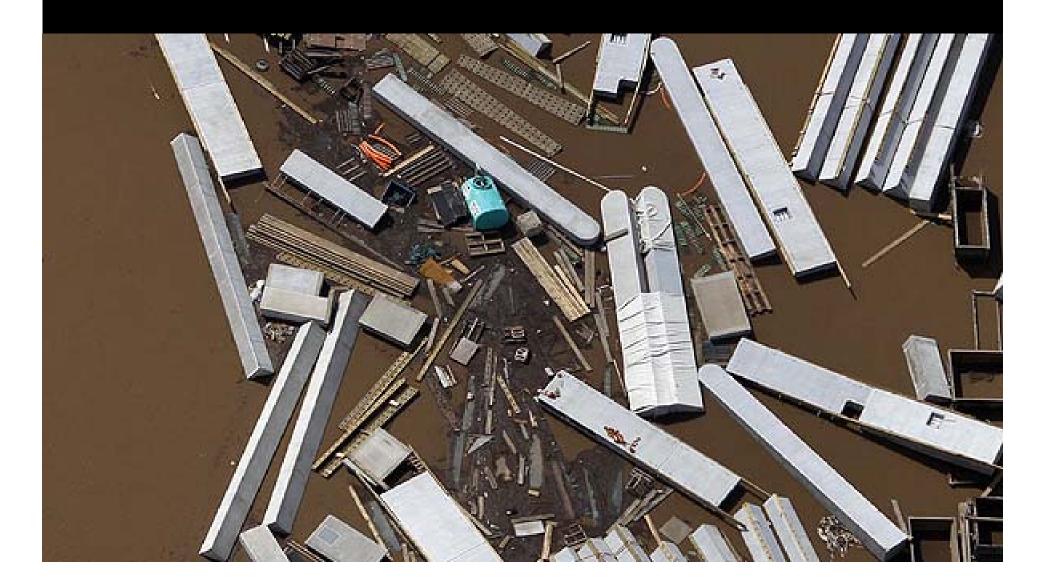


It just did.

- Queensland received an average of 210mm rain across the state in the first few days of January 2011
- Floods affect a land area larger than the size of Germany and France combined
- Three university campuses and three facilities closed for days
- Numerous telco PoPs and co-lo facilities water damaged and without power
- 262 Telstra exchanges red-zoned
- Power outages affecting 99,370 premises
- Estimated \$20 billion in damages
- Three weeks later, Cyclone Yasi sends 290 km/h winds through Northern Queensland and generates est. \$2bn in damages



These could be pieces of your data centre





Backups, DR and BCP

- Best of friends
- But not the same!



Challenges

- Keep me safe
- Be better prepared
- Be more flexible
- Monitor, measure, report
- Reduce cost

(or, if you're lucky, do more with what you have!)



Foundations

- Simplification
- Standardization
- Virtualization
- Shareification



Something I forgot...

Testing



A Little About Us

- Edith Cowan University is a multi-campus University
- 27,000 students
- 4,000 staff (around 1,800 full time)
- Two metropolitan campuses, 26km apart
- One regional campus, 180km away



Scenarios & Building Blocks

- Planned Rebuild ... File-level backups
- Bare-metal Recovery ... TSM Fastback BMR
- Replication & Active/Passive ... VMware SRM with Metro Mirror or Global Mirror
- Active/Active ... Exchange
- FORWARD PLANNING!



Scenarios – Planned Rebuild

- Backups with TSM
- A rebuild plan
- A lot of time
- A strong constitution
- RTO = long
- RPO = 24hours or more!!



Scenarios & Building Blocks

- Planned Rebuild File-level backups
- Bare-metal Recovery ... TSM Fastback BMR
- Replication & Active/Passive ... VMware SRM with Metro Mirror or Global Mirror
- Active/Active ... Exchange
- FORWARD PLANNING!



Scenarios – Bare-Metal Recovery

- TSM Fastback or Cristie BMR
- Cross-site backups
- A recovery plan
- RTO = relatively quick
- RPO = minutes/hours data loss



Scenarios & Building Blocks

- Planned Rebuild File-level backups
- Bare-metal Recovery ... TSM Fastback BMR
- Replication & Active/Passive ... VMware SRM with Metro Mirror or Global Mirror
- Active/Active ... Exchange
- FORWARD PLANNING!



Scenarios Replication & Active/Passive

- Active/Passive Systems
- SAN Volume Controller and GlobalMirror
- Cross-site replication
- A recovery plan
- RTO = short
- RPO = (near) zero loss



Scenarios & Building Blocks

- Planned Rebuild File-level backups
- Bare-metal Recovery ... TSM Fastback BMR
- Replication & Active/Passive ... VMware SRM with Metro Mirror or Global Mirror
- Active/Active ... Exchange
- FORWARD PLANNING!



Scenarios – Active/Active Systems

- ... like Exchange 2007/2010
- Use application-specific logic to replicate data
- May have a quorum/tie-breaker or a "big red switch" to avoid split-brain
- May need a recovery plan
- RTO = (near) zero
- RPO = (near) zero loss
- Disadvantages?



Scenarios & Building Blocks

- Planned Rebuild

 File-level backups
- Bare-metal Recovery ... TSM Fastback BMR
- Replication & Active/Passive
 ... VMware SRM with Metro Mirror or Global Mirror
- Active/Active ... Exchange

• FORWARD PLANNING!



Important Perimeter Issues

- Site Separation
- Communications
- Checkpoints / Gateways
- Your Team
- Corporate buy-in



Happy side-effects.



Moving Forward

- N-Series storage with SnapMirror
- Further automation
- Further simplification & standardization



A Simple Recipe

- Virtualization
- Standardization
- Shared Services
- Storage Replication
- Bare-metal Recovery
- Forward Planning



Where does all that work get you?



Thank You

Questions?