

Edith Cowan University  
IT Infrastructure

# **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

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# 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

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# Scenarios

## Replication & Active/Passive

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

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# 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?

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# 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?