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The logo is contained within a dark teal square with a thin white border. The text 'AAPA SEATTLE' is in white, bold, sans-serif font. A green ribbon graphic loops over the 'A' and 'P' of 'AAPA'. Below this, the number '100' is rendered in a large, green, stylized font where the two zeros are interlocking. A small 'TH' is positioned to the upper right of the second zero. At the bottom of the square, the word 'Convention' is written in a white, cursive script, and the dates 'SEPT. 11~15, 2011' are in a white, sans-serif font.

100<sup>TH</sup>

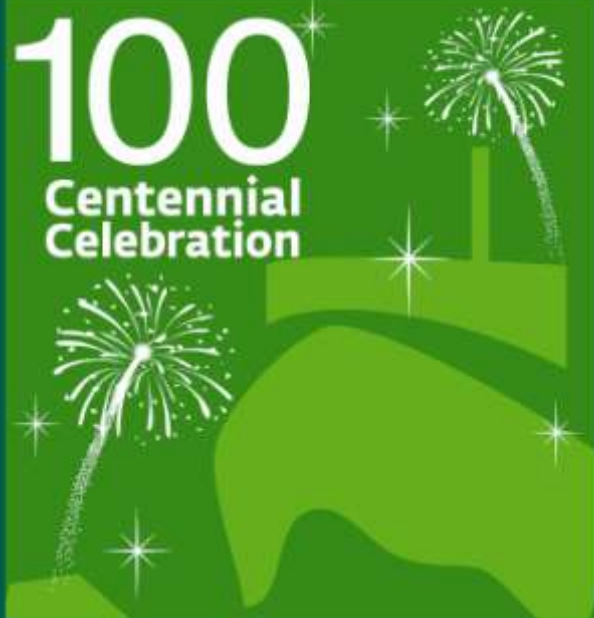
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# Innovative Approaches to Information Technology Disaster Recovery

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# Info Tech Disaster Recovery



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Typically only a single layer of protection

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# Typical Data Backup



Computer data is typically backed up nightly and stored offsite



# Disaster Recovery Plans



# Down Time

Typical recovery performance is unacceptable, with up to 24 hours of lost data



# Slow Recovery

Typically, the recovery time is long, and resource intensive.





# Port of Long Beach Approach

- High-performance continuity
- Multi-layered protection
- No single point of failure
- Continuous backups



# Long Beach Approach

- Simple architecture
- Latest technologies (cloud)
- Near and far recovery options



# Our Approach

If there is a failure on the first layer – to the near site...shift to true business continuity

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# Business Continuity

Full recovery within minutes, with no loss of data

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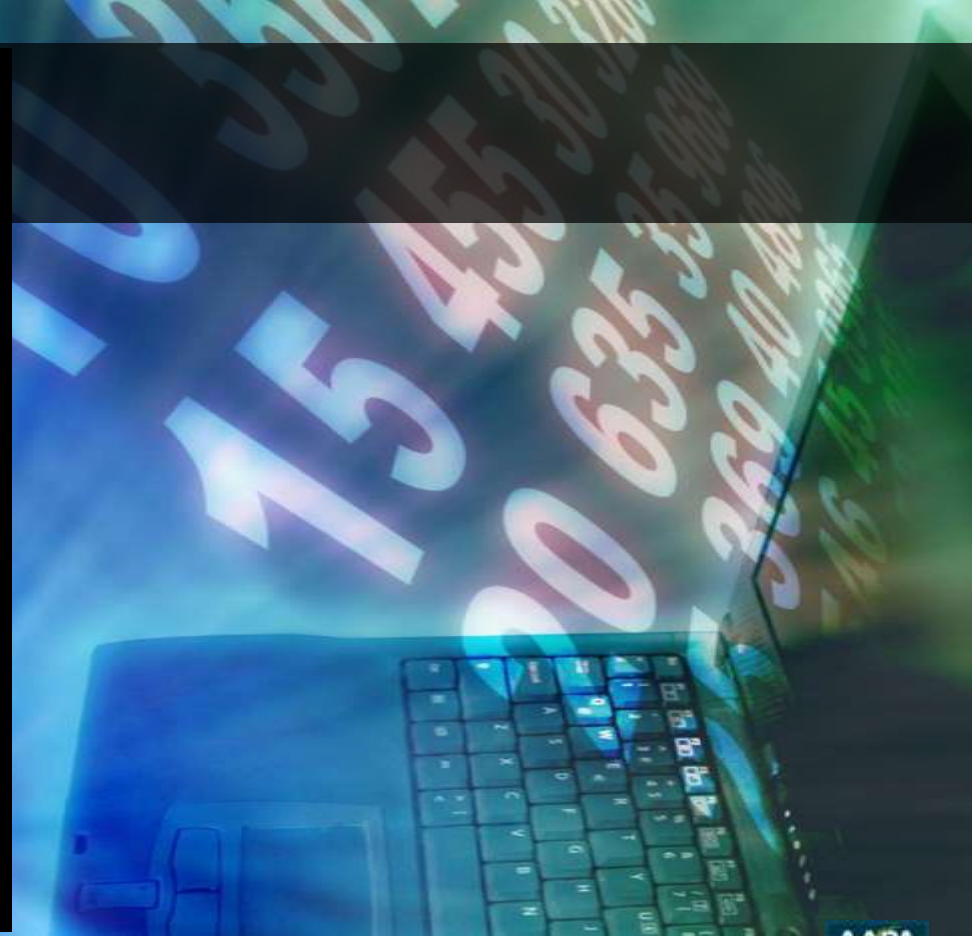
# Recovery

- Second layer failure – to the remote site
- Recovery within 12 hours
- Minimal resources
  - No loss of data or emails



# Recovery

- Third layer failure – traditional recovery
- Encrypted data stored in cloud
- Build new servers
- Follow written plan
  - Recovery time could be days



# Lessons Learned

- Keeping it simple is really hard
- Newer technologies work
- Scale solutions to needs
- Leverage operational advantages
  - Make good use of grant dollars
  - Annual cost about 8% of capital cost

# True Business Continuity







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