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DATA RECOVERY AND IT INCIDENT RESPONSE: PREPARE. PLAN. PROTECT.

D. Mark Robinson, Vice President, IT

MY CU Services

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www.mycuservices.com

Today's Session

- Prepare – is your house in order?
- Plan – do you know what to do?
- Protect – taking care of the things you love?

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About the Presenter

Mark Robinson

MY CU Services

Vice President, Information Technology

32 Years in IT, mostly manufacturing

Former volunteer Deputy Emergency Management Coordinator

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Why Necessary?

- Data is an Asset
- Data Access is a Critical Service
- Failure results in
  - Reputation damage
  - Lost income due to lack of operations
  - Regulatory implications

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Causes of DR Situations

- Natural Disasters
  - 2017 was record year of billion dollar disasters

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Causes of DR Situations

- Doesn't have to be big to affect your credit union

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Causes of DR Situations

- Equipment Failure
  - It's a failing world of computer hardware, after all
  - 42% - 52% of total downtime caused by hardware failure
  - Lifespan of your data is longer than predictable lifespan of your computer storage

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Causes of DR Situations

- Human Error
  - 35% of DR declarations caused by human error

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Causes of DR Situations

PROTECT THE DATA!

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Prepare – Platforms and Procedures

- Platforms to back up data
    - Where data gets backed up to
- Platforms to provide DR access
    - How data is accessed if the primary device is unavailable
- Procedures
    - Everyday tasks to make sure data is backed up
    - "Bad day" tasks when backed up data is required

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Backing Up Data

It's about the <u>RESTORE</u>, not the BACKUP!

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Backing Up Data

- First Step: Make an inventory
  - Helps you cover it all
  - Bonus points: incorporate Data Classification

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Backing Up Data

- Determine what you need to operate
- Think big and broad – don't just pick what you love the most
- If someone took time to create data, or someone may want it, then you love it

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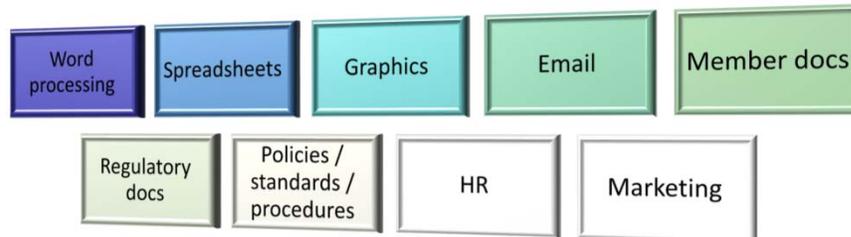Experience the MY CU® *difference*

Backing Up Data

- Core data
  - If online, Provider will back up (maybe)
  - If on-premise, Provider may back up (or do they?)
 - Check the agreements, ask questions, get proof

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Backing Up Data

- Non-Core data
  - Comes in all forms

Word processing	Spreadsheets	Graphics	Email	Member docs
Regulatory docs	Policies / standards / procedures	HR	Marketing	

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Where's Your Data? (and is it backed up)

- On an On-Premise Server
  - Core data (if on-premise core, i.e. not hosted)
  - Non-core data saved to a network drive

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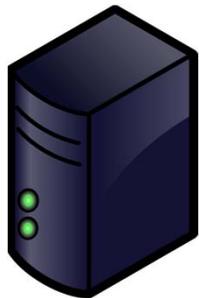
Where's Your Data? (and is it backed up)

- In the Cloud
  - Check Cloud Agreement for backup ("protection")
  - How often? Continuously? On a schedule?
  - How quickly can you access? *Recovery Time Objective*
  - How old will the restored data be? *Recovery Point Objective*
  - Versioning – previous versions available?

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Where's Your Data? (and is it backed up)

- In the Cloud
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  - How quickly can you access? *Recover*
  - How old will the restored data be? *Recov* *jective*
  - Versioning – previous versions available?

Ransomware fighter!

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Where's Your Data? (and is it backed up)

- On Workstations
  - Desktop or laptop
  - Most risky: theft, loss, single disk failure, tragic dumped drink incidents
  - One mitigation is Home Folders
    - Allows local storage for speed/convenience but automatically saves to linked server
    - Better than just telling people to save to a network share

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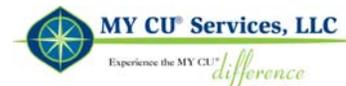
Local Backup Methods

- Tape
  - Tape degenerates with usage
  - Need a separate drive and software for restoration

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Local Backup Methods

- External USB Hard Drive
  - Better
  - Often issues with longevity. Designed for consumer-grade, lower duty cycle and not running hard for backups

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Problems with Local Backup Methods

- Ineffective if lose access to the facility
- Vaults don't solve the problem of storing tapes and drives

ROAD CLOSED

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Cloud Backup Methods

- Good option if carefully planned
- Know your agreement – RTO, RPO are important
- Plan for any local device or software
- Relatively slow transfer if need to restore a lot
- Monitor its status

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Hybrid Cloud Backup Method

- Best of both worlds
- Local appliance for fast backup/restoration, but then sends data to cloud
- Some appliances can act as virtual servers and pinch hit for main server
- Some clouds can act as virtual servers

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Backup Strategy

- As important as the backup method
- Simple copying will bite you – someday
- Make sure versioning or Differential backup is in place to preserve data at a point in time

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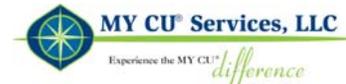
Other Things To Backup

- Email
  - If on-premise, insure your backup software handles the running mail server and does message-level restore
  - If hosted, check agreement for details.
    - Some providers backup but retain for short time
  - Consider incorporating email retention

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Other Things To Backup

- Telecommunications Configurations
  - You love this data too – you just don't know it
  - Configs from routers, firewalls, web filters, telephone systems
  - Losing config data can be inconvenient (web filtering lists) or devastating (external access operation)
  - Work with your vendors
  - Personally sensitive to this

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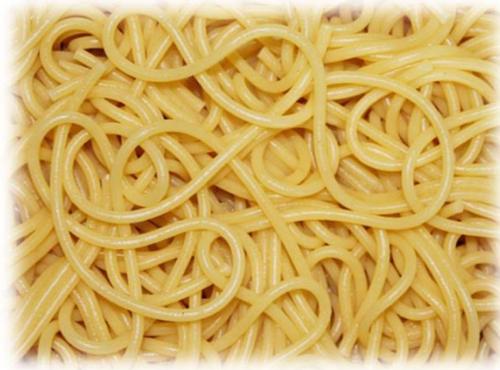Experience the MY CU® *difference*

Other Things To (Kinda) Backup

- Voice lines
  - Carrier can set up forwarding to other numbers, even cell phones
- Data lines
  - Alternate Internet access
  - Dedicated lines (e.g. T1 lines) may be replaced by VPN connections but optimally must be pre-configured
- Your incident plan!

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There's a lot to this!

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Guidelines for Your Team

- Assign responsibility for:
  - Implementing backup solutions
  - Operating backup, or making sure it automatically runs
  - Insuring DR is part of any new systems, including telecom
- Assign Primary and Secondary staff
  - Periodically involve Secondary staff to keep them current

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Guidelines for Your Team

- Incorporate DR and Incident Response in Job Descriptions
- Make DR part of performance objectives
  - Tie in DR testing

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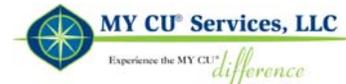
Equipment for DR

- Server
  - Ideal, even better at another location and holding backup data
  - If using tape – make sure have same drive and software
  - Consider backup appliances / services that can act as virtual server

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Equipment for DR

- Workstation
  - Spare laptops for DR team
  - Older is OK, but make sure can handle data and applications
  - Hint: if a loaner, make sure not better than production PC!

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Equipment for DR

- Why Laptops?
  - Naturally creates an Incident Response Team
  - One workstation per person – insures all data and applications are current
  - Make sure they go home!

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Testing

- Documentation!
  - Regulatory Compliance
  - Continuous Improvement

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Types of Testing

- Full System Test
- Data Restore Test
- Workstation Failure Simulation

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Types of Testing

- Full System Test
  - Confirms if all data is available to run a particular system
  - Catches corrupted databases, small config files, and everything between
  - Most onerous and time consuming

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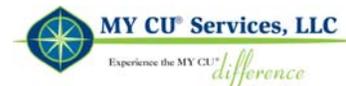
Types of Testing

- Data Restore Test
  - Proves data is being backed up, and can be restored
  - Pick a document that frequently changes
  - Restore to another folder
  - Keeps you in practice

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Types of Testing

- Workstation Failure Simulation
  - A favorite – keeps DR in mind, and not far fetched
  - Works best with laptops
  - Meet employee at the door and seize their laptop. "Your laptop died today. Try to do your job without it."
  - Reinforces good practices of not solely depending on one of the weakest links in your environment

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Disaster Recover: Incident Response Lifecycle

- Declare a Disaster – probably late
- Data Recovery
  - Determine what data you need to restore, and where
  - Use your inventory for reference
  - Test results can also be a handy reference
- Stand up DR system

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Disaster Recover: Incident Response Lifecycle

- Fail-Back
  - Transactions recorded in DR system need to be in Production
  - Sophisticated DR software can handle
  - Think through how you will handle. Could be manual ☹

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Keeping Fit Data Backup & Recovery

- Practice and Testing
- Continuously look for critical components
- Talk to peers
  - What was your last failure?
  - What did you do?
- Gloomy imagination is a great tool

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Homework

- IT Incident Plan that covers Disaster Recovery
- Adequate Backup (and RESTORE) strategy
- Testing plan
- Elevate topic of DR so frequently discussed and practiced
- Brag!
  - Board of Directors
  - Peers
  - Members – newsletter blurb

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Questions?

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