



# Real World Lessons From Sandy

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Assurance • Tax • Consulting

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# Presenter: Diego Rosenfeld

- Principal in McGladrey's technology consulting practice
- Serves as the practice lead for the IT outsourcing group
- Provides CIO advisory and IT strategic planning services to McGladrey clients
- Speaks frequently on topics ranging from information security to disaster recovery
- Led many of the firm's cloud computing initiatives



# Presenter: Troy Harris

- Director, McGladrey
- CBCP, leads McGladrey's business continuity planning consulting practice
- Over 14 years of business continuity planning experience
- Frequent speaker on disaster mitigation and recovery planning concepts
- He has helped organizations from various industries to be better prepared for disasters by assisting them to develop, test and enhance their Business Continuity Plan (BCP)



# Webinar Objectives

- Discuss the impact of not being prepared
- Review the steps required to get prepared
- Understand the role of IT and third parties in disaster recovery planning and execution
- Review practical technology solutions to address common challenges

# Superstorm Sandy Facts

- **Financial Impact**

- \$40 billion in damages in New York
- \$36 billion in damages in New Jersey

- **Human Impact**

- 15 states impacted
- 8 million homes lost power
- 14,000 flights canceled
- Thousands of businesses and homes shut down
- New York subway system shut down and flooded
- The NYC financial district shut down

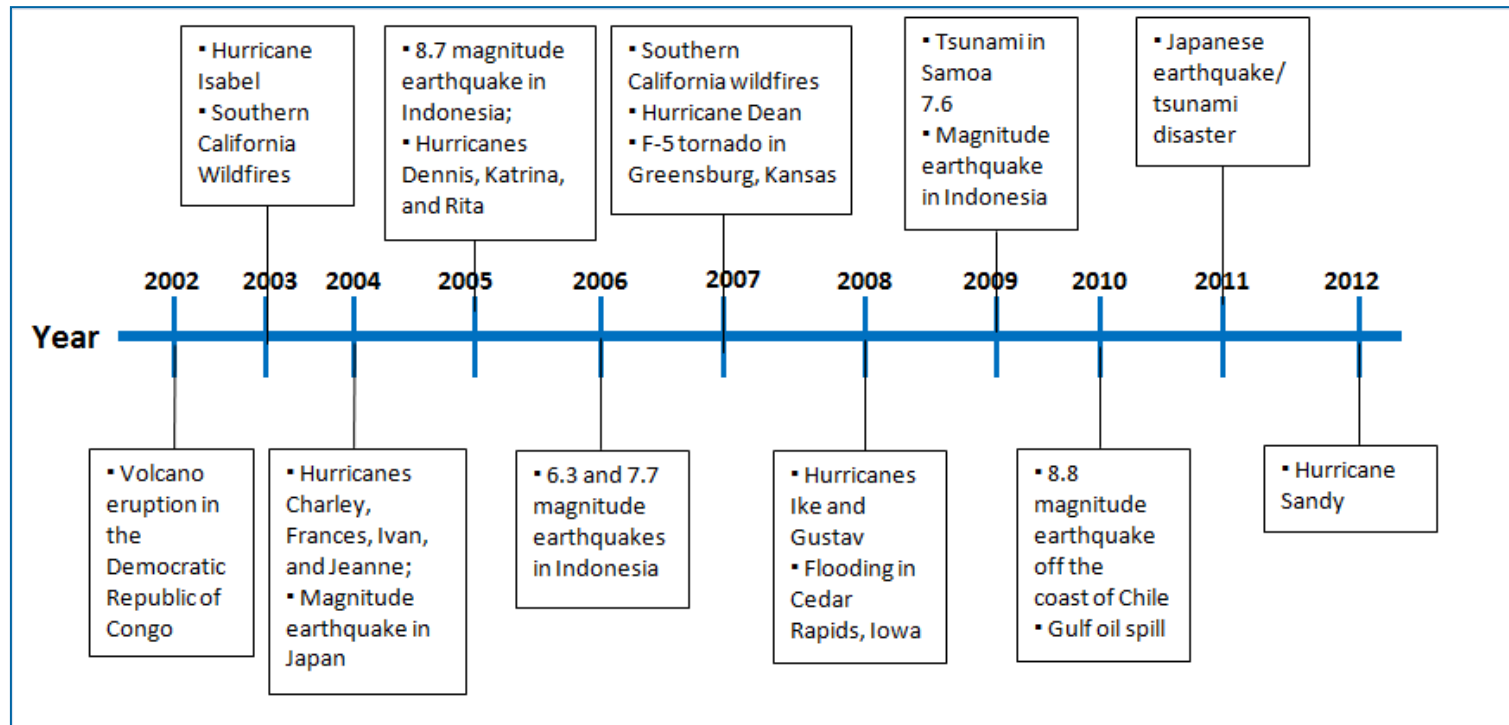
- **Technological Impact**

- Datacenters flooded, websites down, cell service down, etc...



# Decade of Disasters: 2002 – 2012

***Scientists say weather disasters will only get worse***



# Real World Example #1

*Employees working from home due to storm, corporate Internet/phone services are down, there are no backup telecom services, and key systems like email are onsite.*

## Impact:

- Cannot send and receive emails
- No outbound and inbound calling
- Remote access / VPN services unavailable
- No access to the Internet
- No reasonable way to communicate with clients



**No plan, out of commission for 3 days in Boston!**



## Real World Example #2

*Company spent a fortune on BCP planning and disaster recovery systems. Night before the Sandy it went to “action” the plan.*

*Oh oh... nobody paid attention during annual business continuity exercise and didn't realize it called for the formation of five separate committees that night.*

*Employees worked from home but VPN buckled under the load.*





# Real World Example #3

*Travel company installed an expensive generator last year. Feeling pretty good about dealing with a power loss.*

*Lost power during Sandy and systems were not available. Oops... critical equipment was plugged directly into the generator and was “fried” on the cutover.*

*Took about 48 hours to figure out what happened. All servers down for three days.*

# People and Process

# Disaster Recovery vs. Business Continuity

- **Disaster Recovery (DR) Planning** involves strategies and plans to restore **disrupted systems** and other critical resources as required to support the business.
- **Business Continuity (BC) Planning** involves documented and formal arrangements for resuming critical **business operations** in a timely manner following a disaster or other disruption.
  - DR Planning is essential, but only one component of BC Planning
  - DR and BC efforts must be closely coordinated
  - The business defines DR requirements, but DR Plans may still not provide immediate access to all critical resources
  - BC focus should be on sustaining the business, recognizing that degraded operations may suffice temporarily

# 9 Steps to be Prepared

1. Establish commitment and assign roles
2. Publish a charter with scope, objectives, etc.
3. Identify and evaluate threats – and your mitigation posture
4. Prioritize resources and operations, and define outage tolerances
5. Evaluate, select, and implement effective strategies
6. Define response/recovery processes and document plans
7. Disseminate plans and train staff, etc.
8. Methodically test your plans and strategies, and apply adjustments
9. Continuously maintain and refine your strategies and plans to sustain your preparedness

# Testing Approaches

- **Tabletop Walkthrough**
  - Familiarizes individual departments with their recovery plans and facilitates identification of internal planning gaps
- **Integrated Exercise**
  - Simulates interaction across teams and facilitates identification of key interdependencies
- **Operational Simulation**
  - Provides experience using alternate procedures and facilitates identification of bottlenecks, insufficient resources, etc.
- **DR Restoration**
  - Confirms the ability to restore specific systems/resources and facilitates the identification of system/resource restoration timelines and potential issues
- **Mock Disaster**
  - Validates broader recovery processes and interdependencies and provides a realistic view of the overall recovery process

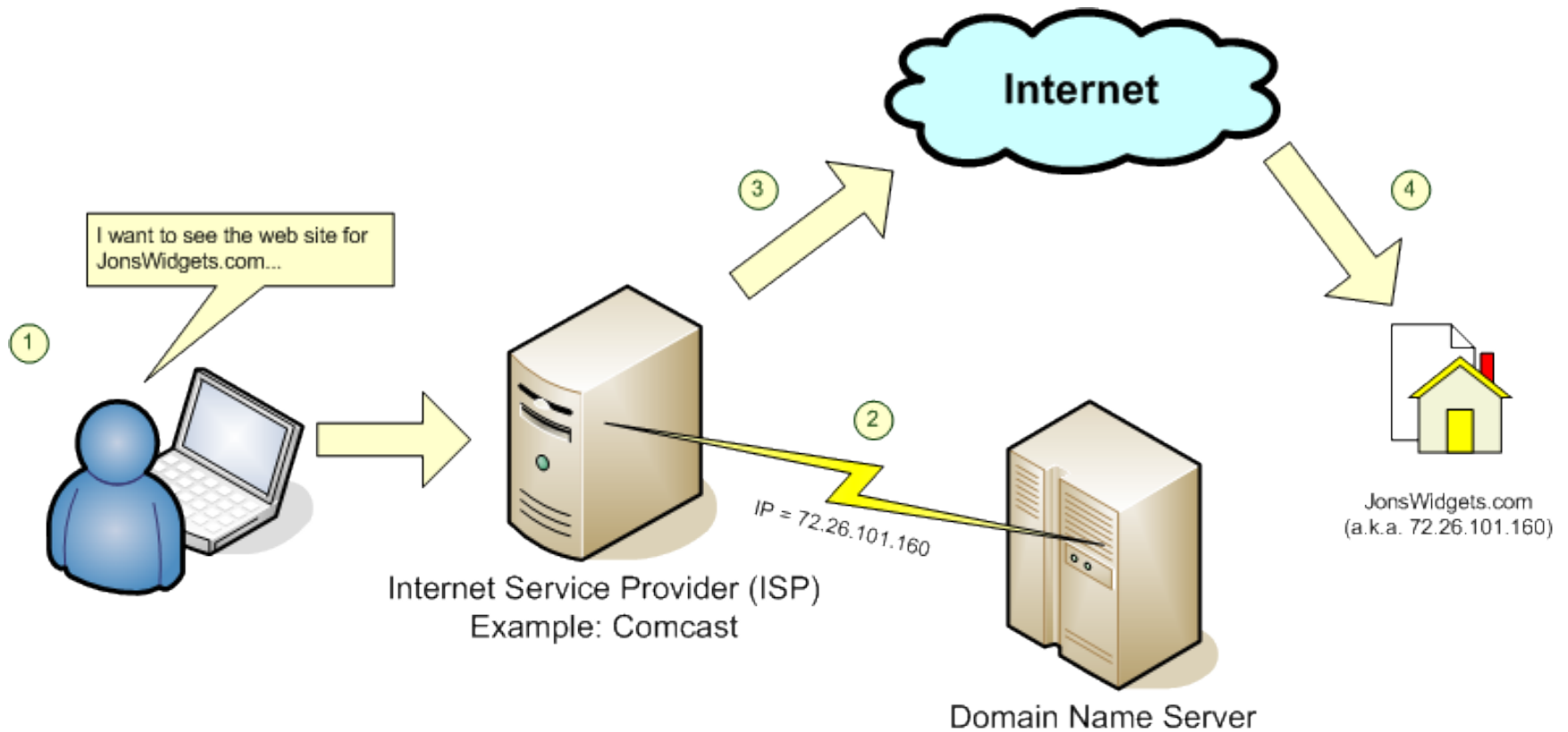
# Third Party Recommendations

- Service Level Agreements (SLAs) vs. Force Majeure
- Invalid or Incomplete Vendor Diversification
- DR/BC Service Providers
  - First Come, First Serve vs. Simultaneous Occupation
  - Preferred Service Levels
  - Activation and Usage Fees
  - Duration Limitations
  - Compatibility Conflicts

# Technology Solutions



# Technology Concept: DNS



**13 world wide root DNS servers**

# Internet Connectivity Solutions



Basic

- **Backup Internet services** – At a minimum, have a backup service available. Preferably a different physical medium like microwave or cellular. Doesn't have to match primary connection top speeds.



Basic

- **Automatic outbound failover** – Any good firewall is capable of supporting multiple Internet connections and providing outbound fail over to a backup connection. This still requires manual inbound failover for Internet facing services.
- **Automatic outbound/inbound failover** – Instantly failover both inbound and outbound Internet services so that end users and customers can access your on-premise public facing resources like email, file services, applications without manual intervention.
- **Collocation** – Consider moving your primary datacenter /server room into a specialized facility with multiple upstream Internet carriers.

# Email Continuity Solutions

Basic

- **Email Spooling** – If you lose Internet connectivity or access to an email server, a hosted email filtering service can spool your incoming email until service is restored.



- **Email Continuity**– Provides continuous access to send and receive email through an email portal available to end users. When service is restored all sent and received emails are synced to the primary email service.



- **Hosted Email** – Instead of running email on-premise use a hosting provider to handle all elements of email management, backup, and recovery.



# Power Management Best Practices

## Basic



- Verify computer equipment is using surge protectors
- Verify **all** server room equipment is on UPS power
- Provide separate A and B power feeds to critical equipment
- Configure UPS software to support “graceful” server shutdown
- Configure UPS emergency notifications
- Know your UPS battery runtime
- Check battery condition periodically (monthly)
- Consider generator for backup power
- Consider collocation facility

*An **uninterruptible power supply (UPS)** is a device that allows your computer to keep running for at least a short time when the primary power source is lost. It also provides protection from power surges. A UPS contains a **battery** that “kicks in” when the device senses a loss of power from the primary source.*



# Voice Continuity Services

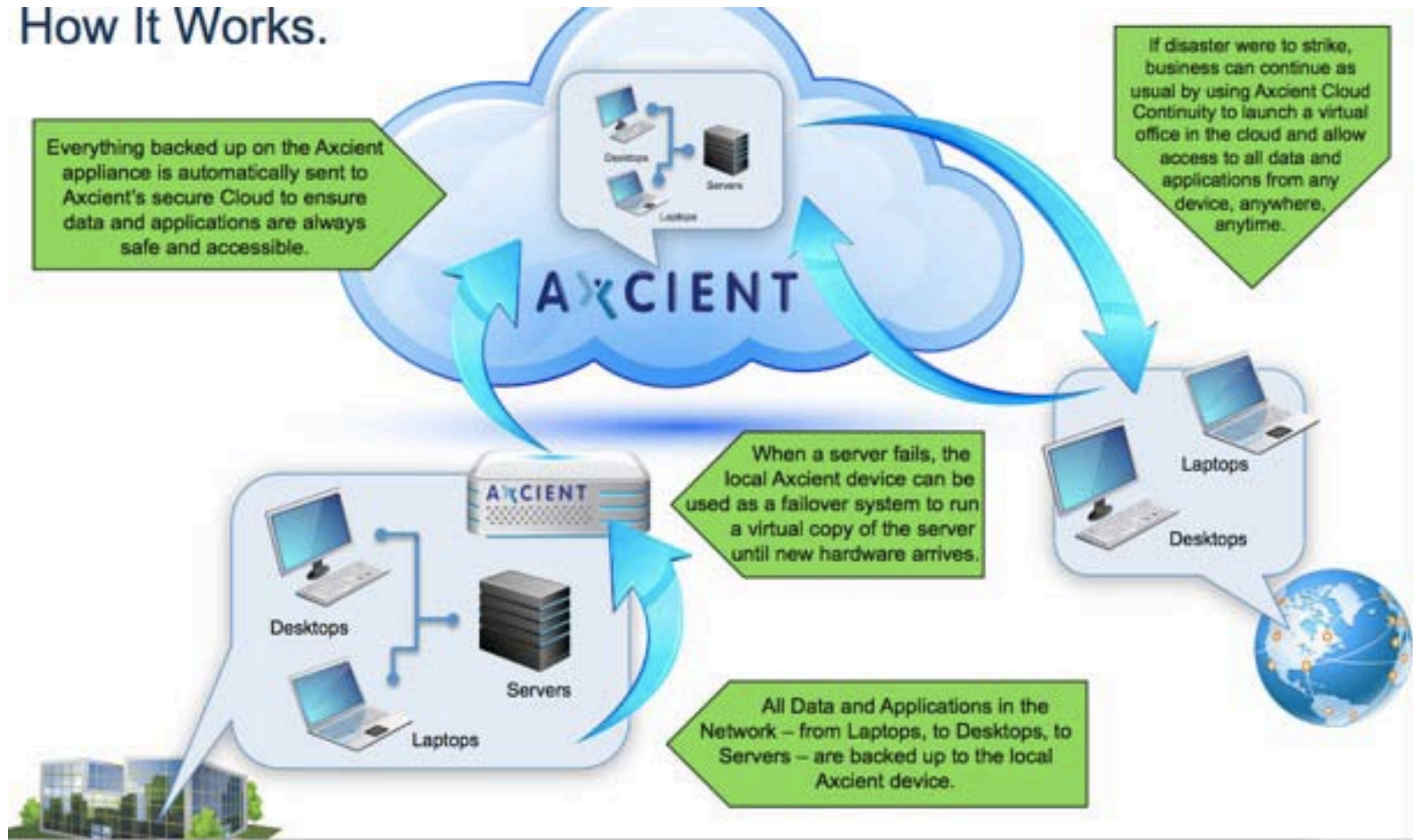
Basic

- **Direct Trunk Overflow (DTO)** – Preconfigured alternative path for incoming phone calls. Carrier automatically redirect calls to POTS lines, answering services, cell phone, etc.
- **Voice Recovery Services** – Hot standby PBX failover (phone system) with functionality that includes auto-attendant, ACD queuing, skills based routing, conferencing, and an emergency hotline.  
- **Hosted PBX/VOIP Systems** – Instead of running your phone system on-premise you can purchase a subscription based hosted phone system managed in a provider's datacenter.



# Simple Backup and Recovery Option for Small and Midsized Business

## How It Works.



# On-Premise vs. Cloud Solutions

If it is **cost effective**, **secure**, **reliable**, and **high performing** consider moving it to the “Cloud”.





# Special Offer for Webinar Attendees

## Business Continuity Rapid Assessment

- 25% savings
- Offer valid through Jan. 2013

Type	Size Company	Amount
Very small	<25 employees	\$3,000
Small	26 to 75 employees	\$5,000
Medium	76 – 250 employees	\$7,500
Large	250+	Call

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# Resources

- Website: FEMA, Ready - Prepare, Plan, Stay Informed.

<http://www.ready.gov>

- AICPA disaster recovery checklist

<http://www.aicpa.org>

- State level disaster recovery resources

<http://www.vscpa.com/Content/59295.aspx>

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