

NASHVILLE

Zerto SON

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# Failover Testing, Never Gonna Give You Up

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# Agenda

Introductions

Failover Testing – Overview

Failover Testing – Planning

Failover Testing – How it Works

Failover Testing – The Execution

Q&A

# Introductions

# About Me – Wes Carroll

- Sr. Solutions Engineer – Strategic Accounts @ Zerto
- Zerto Customer Since 2013, Zerto Employee Since 2017
- 20 Years in IT

## Get in Contact with Me

- LinkedIn – <https://www.linkedin.com/in/wes-carroll/>
- GitHub – <https://github.com/wcarroll/>
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# About Me – Alex Schenck

- Solutions Architect, Public Cloud
- 3-year Zertonian
- AWS Certified, covers AWS and Azure

## Get in Contact with Me

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# Failover Testing – Overview

# Failover Testing ... What is it?

- Failover Testing is the ability to ensure recoverability with no impact to production.
- Production Replication and Protection continues while testing is underway.
- Test Workloads are Automatically Cleaned up when Testing is Complete.



# Failover Testing ... Why Do It?

- Application Recovery Validation Testing
- Resource Capacity Validation
- Recovery Plan Testing
- Infrastructure Performance Validation
- OS or Application Patch and Upgrade Validation
- Security Penetration Testing
- Audit Compliance

# Failover Testing – Planning

# Failover Testing ... Networking Considerations

- “Bubble” or Isolated Network?
- Severed Network?
- How are my Customers Going to Access the Application?

# Failover Testing ... Storage Considerations

## **Mirror Volume is Utilized**

- No Extra Storage Required to Test

## **Journal Volume(s) are Utilized**

- No Extra Storage Required to Test

## **Scratch Volume is Created**

- Scratch Volume is Thin Provisioned
- Scratch Volume is Limited to Journal Hard Limit (Per VM)

# Failover Testing ... Storage Considerations

## Setting the Journal Hard Limit

Edit VPG → Replication → VM Settings

Edit VPG : Dev CRM 01

Specify the recovery site and default values to use for replication to this site.

REPLICATE TO: Recovery Site:

DEFAULT RECOVERY SERVERS: Host   
Datastore

Journal History 1 Days

Target RPO Alert 5 Minutes

Test Reminder 1 Month

ADVANCED:  Enable WAN Traffic Compression

Cancel Previous

# Failover Testing ... Storage Considerations

## Setting the Journal Hard Limit

Select the VMs to Change → Click  
“Edit Selected”

Advanced VM Replication Settings

Specify specific settings for the VM, overriding the default settings.

Search: \_\_\_\_\_ Group by: None

**EDIT SELECTED**

<input checked="" type="checkbox"/>	VM Name	Recovery Host Cluster/H...	Recovery Datastore	Journal Hard Limit	Journal Warning Thresh...	Journal Datastore
<input checked="" type="checkbox"/>	DevCRMdb01	[SanDiego-Site02]znest8...	DR_Datastore (100GB fre...	150GB	112GB	DR_Datastore (100GB fre...
<input checked="" type="checkbox"/>	DevCRMrpt01	[SanDiego-Site02]znest8...	DR_Datastore (100GB fre...	150GB	112GB	DR_Datastore (100GB fre...
<input checked="" type="checkbox"/>	DevCRMweb01	[SanDiego-Site02]znest8...	DR_Datastore (100GB fre...	150GB	112GB	DR_Datastore (100GB fre...
<input checked="" type="checkbox"/>	DevCRMapp01	[SanDiego-Site02]znest8...	DR_Datastore (100GB fre...	150GB	112GB	DR_Datastore (100GB fre...

Selected VMs: 4 Total VMs: 4

Cancel **OK**

# Failover Testing ... Storage Considerations

## Setting the Journal Hard Limit

Set the Limit(s) to the desired settings by absolute value, percentage, or unlimited

The screenshot shows a dialog box titled "Edit 4 selected VMs" with a close button (X) in the top right corner. The dialog contains several configuration fields:

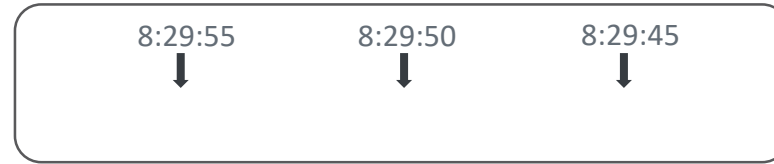
- Recovery Host:** [SanDiego-Site02]znest83esxus-0
- VM Recovery Datastore:** [SanDiego-Site02]znest83esxus-0 (100GB free of 100GB)
- Journal Size Hard Limit:** A dropdown menu is open, showing three options: "Unlimited", "Size (GB)" (selected), and "Percentage". The "Size (GB)" option is currently set to 150 GB.
- Journal Size Warning Threshold:** A dropdown menu is open, showing two options: "Percentage" (selected) and "Size (GB)". The "Percentage" option is currently set to 112 GB.
- Journal Datastore:** DR\_Datastore (100GB free of 100GB)

At the bottom right of the dialog, there are two buttons: "Cancel" and "OK".

# Failover Testing – How it Works



# Continuous Data Protection



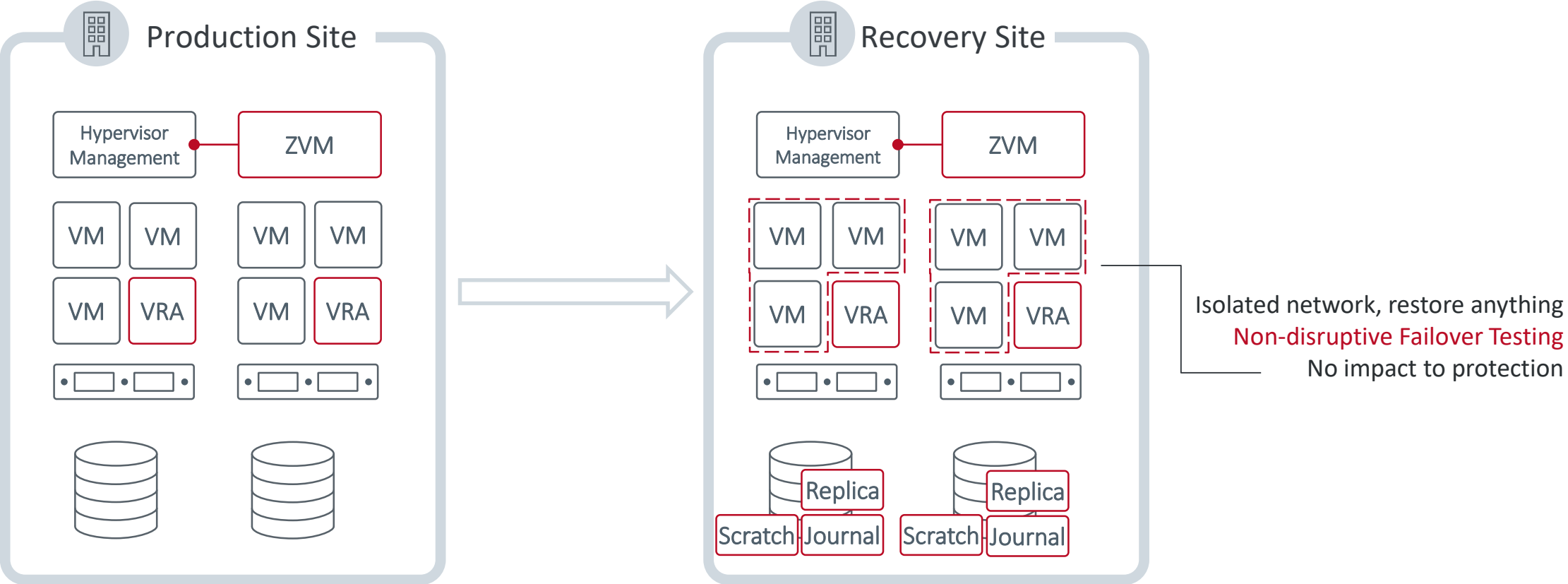
Per-VM Journal



Replica Disk

- 1** Writes from the VM are written into the journal (FIFO Queue), maintaining write-order-fidelity. Checkpoints are inserted in-flight.
- 2** As new writes continue to enter the journal, older writes are pushed out to the replica disk(s).

# Orchestration & Automation – Failover Test



# Failover Testing – The Execution

# Failover Testing ... What our customers are doing

## Large Logistics Provider

- Bubble Network
- 3 Day Journal
- Full Stack Testing over the Course of 2 Weeks
- Use API to Automate Journal Hard Limit Updates Pre and Post Tests

# Failover Testing ... What our Customers are Doing

## Financial Services Company

- Isolate Production Network and Sever Link to Recovery Site
- Recover all Workloads in Recovery Site
- UAT Testing
- External Partner Testing
- Discard All Changes

# Failover Testing ... What our customers are doing

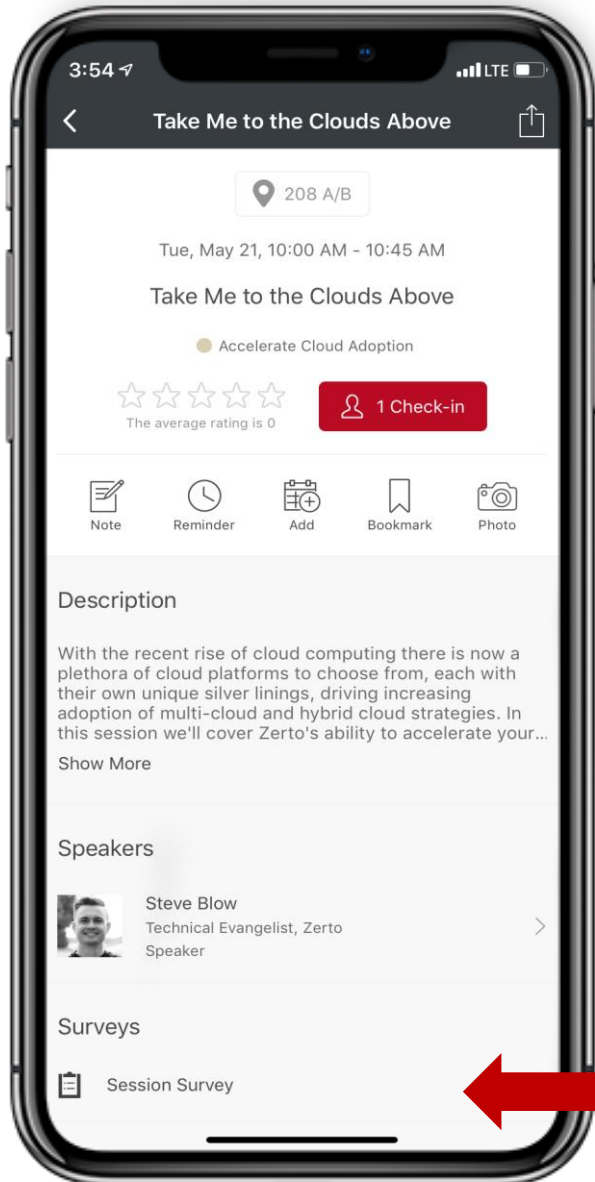
## Health Care Services Organization

- Automated Nightly Testing
- Leverage existing Automation Platform to Automate Failover Testing and Smoke Test Application

# Q & A



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# Tell us what you think

1. Open the ZertoCON app
2. Select the schedule
3. Find this session
4. Take the brief session survey