Building Secure, Resilient
Disaster Recovery Strategies

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OnLINE TECH

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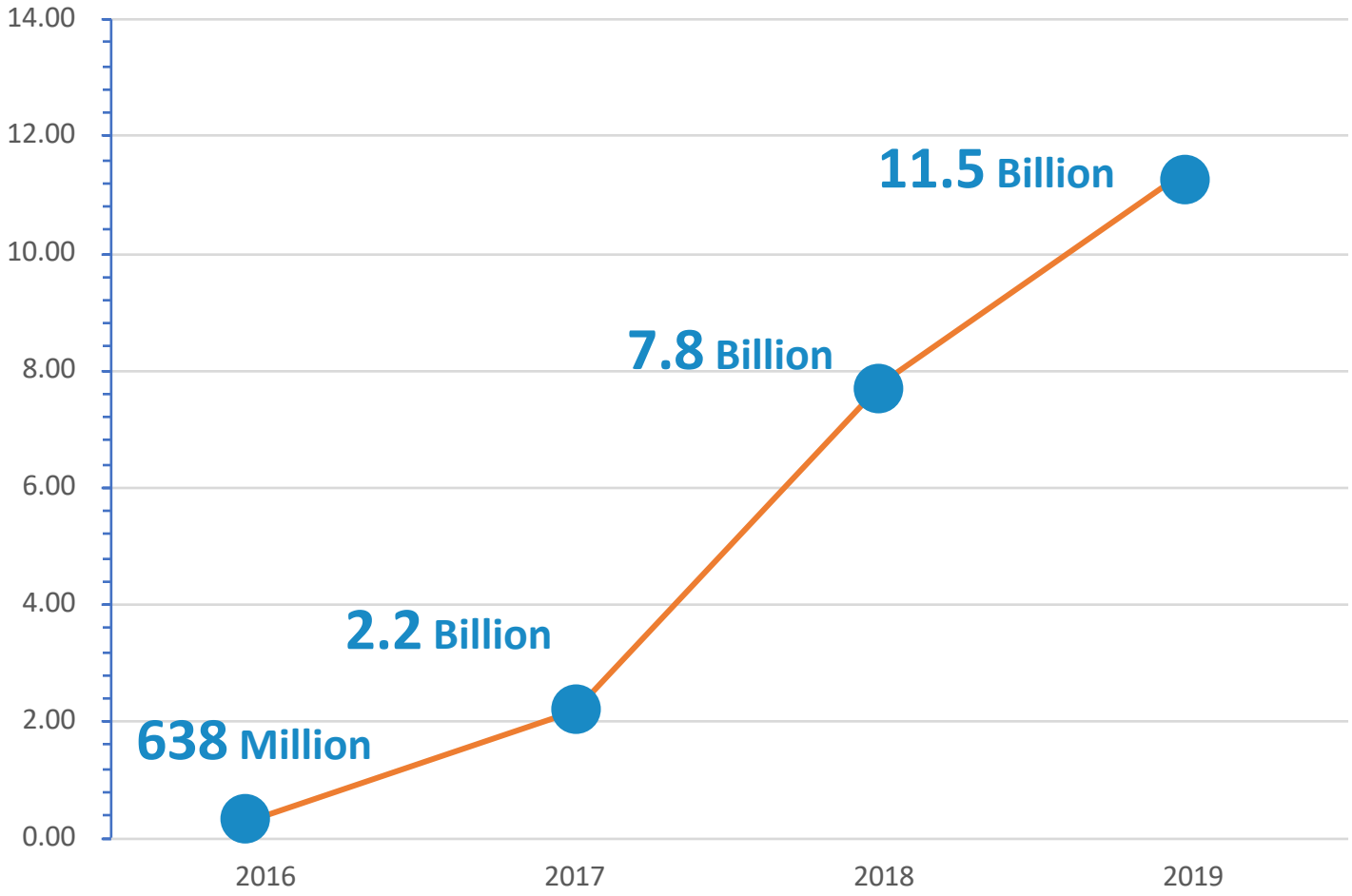
The Growing Threat of Ransomware

350%

Increase in number of attacks year over year. At this rate, the number of attacks could reach $11.5 billion by 2019.



Security Questions to Consider

1. Who is responsible for cybersecurity within the organization?
2. How do you prioritize your organization's most critical assets?
3. How do you specifically protect customer information?
4. What types of cybersecurity policies do you have in place today?
5. Do you have data recovery capability?
6. How do you monitor your network to alert to cybersecurity events?

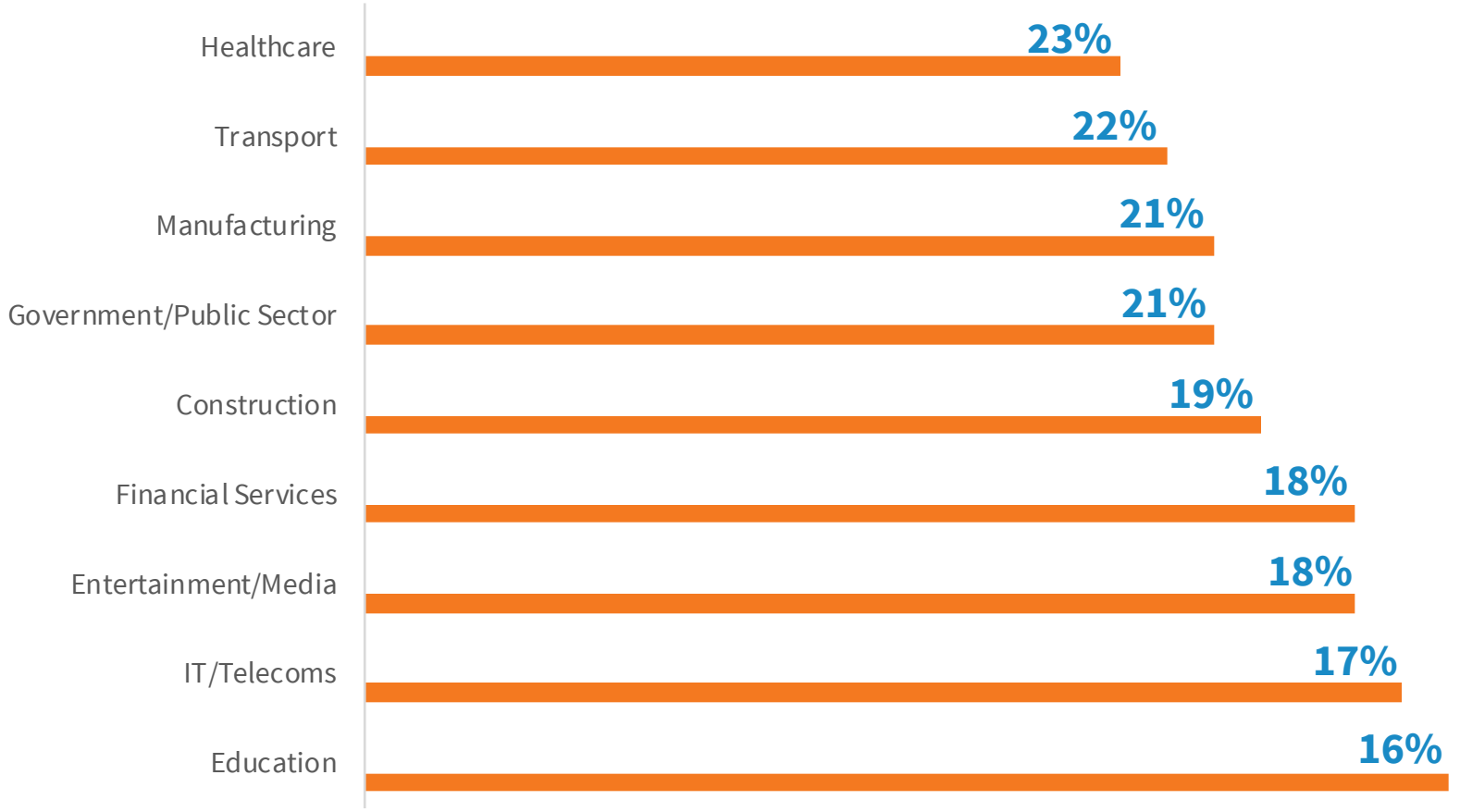
Recover from Ransomware Attacks

Avoid Ransomware Cost, Data Loss and Downtime

- Point-in-time recovery for seamless “roll-back” to moments before attack
- Journal provides rewind capability in ~5 second increments – for up to 30 days
- Granular file-level recovery from logical failures – never copy a corrupted file again

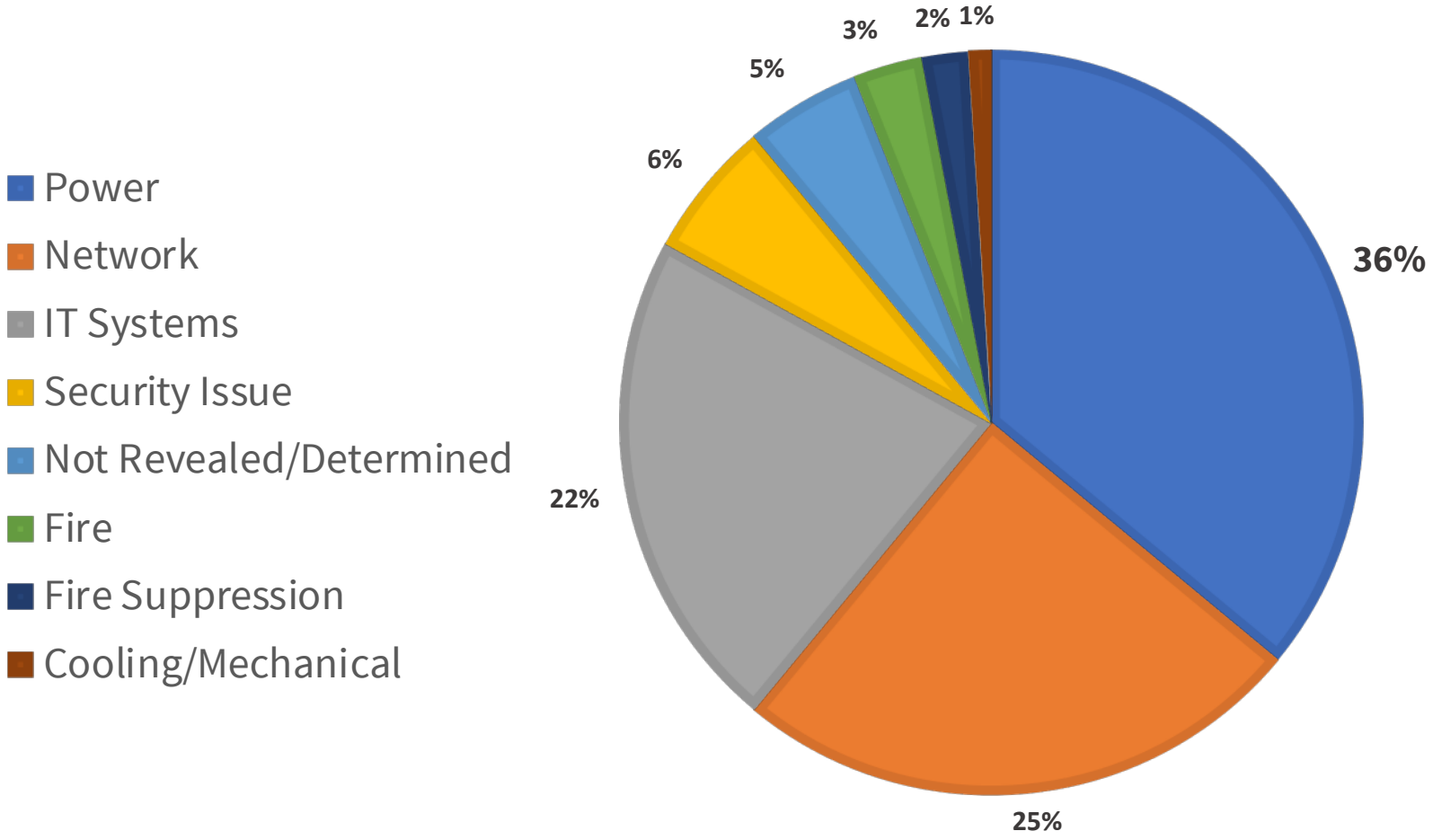
No One is Immune to Ransomware

Ransomware Targets by Industry



It's More Likely Than You Think

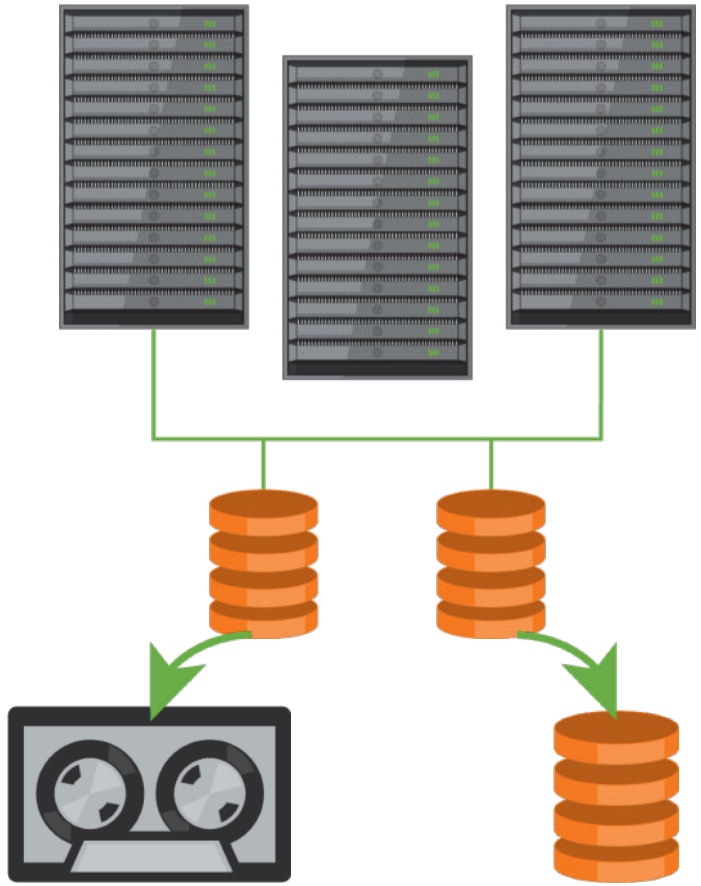
Root Causes of Unplanned Outages 2016



IT Resilience

PLANNED	+	UNPLANNED
Mergers & Acquisitions		User Errors
Move to Cloud		Infrastructure Failures
Datacenter Consolidation		Security & Ransomware
Maintenance & Upgrades		Natural Disasters

Traditional Protection Technology



VM Backups

- Data loss of 24 hours
- Recovery in 24+ hours
- Not tested, high failure rate
- Complex & time consuming
- On premise, limited use for DR

Storage Replication

- Data loss in hours
- Hours to recover
- Tested annually
- Complex, not VM aware

The Cost of Downtime

Daily Backups

RPO - 24 Hours

Up to **$273,972.60**

Snapshot Based Replication

RPO - Hours

Up to **$45,662.10**

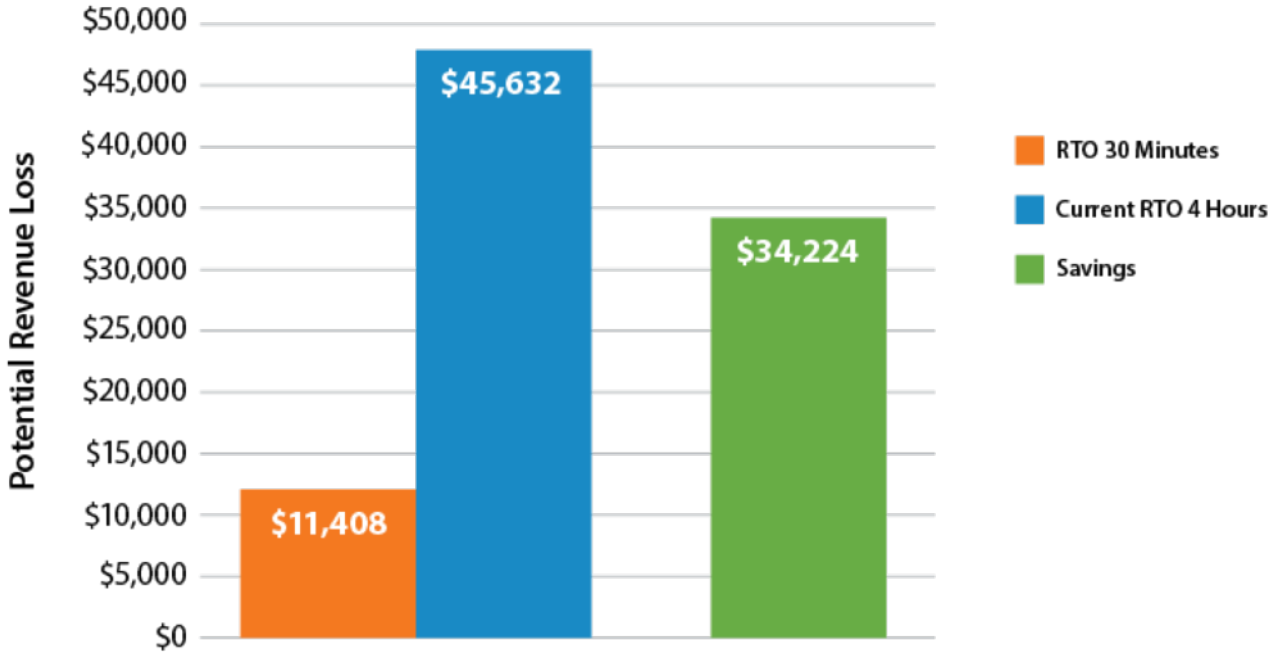
Continuous Replication

RPO - Seconds

Up to **$7,610.35**

Potential Revenue Loss

for a Company with a turnover of $100M



31%

of companies have experienced an IT outage in the last year

Source: Uptime Institute 2018 survey
Eighth Annual Uptime Institute Datacenter Survey

80%

Said their outage was preventable

Source: Eighth Annual Uptime Institute Research Datacenter Survey

POLL

Do you view your backup strategy as your DR plan?

Yes

No

Backup is NOT DR!

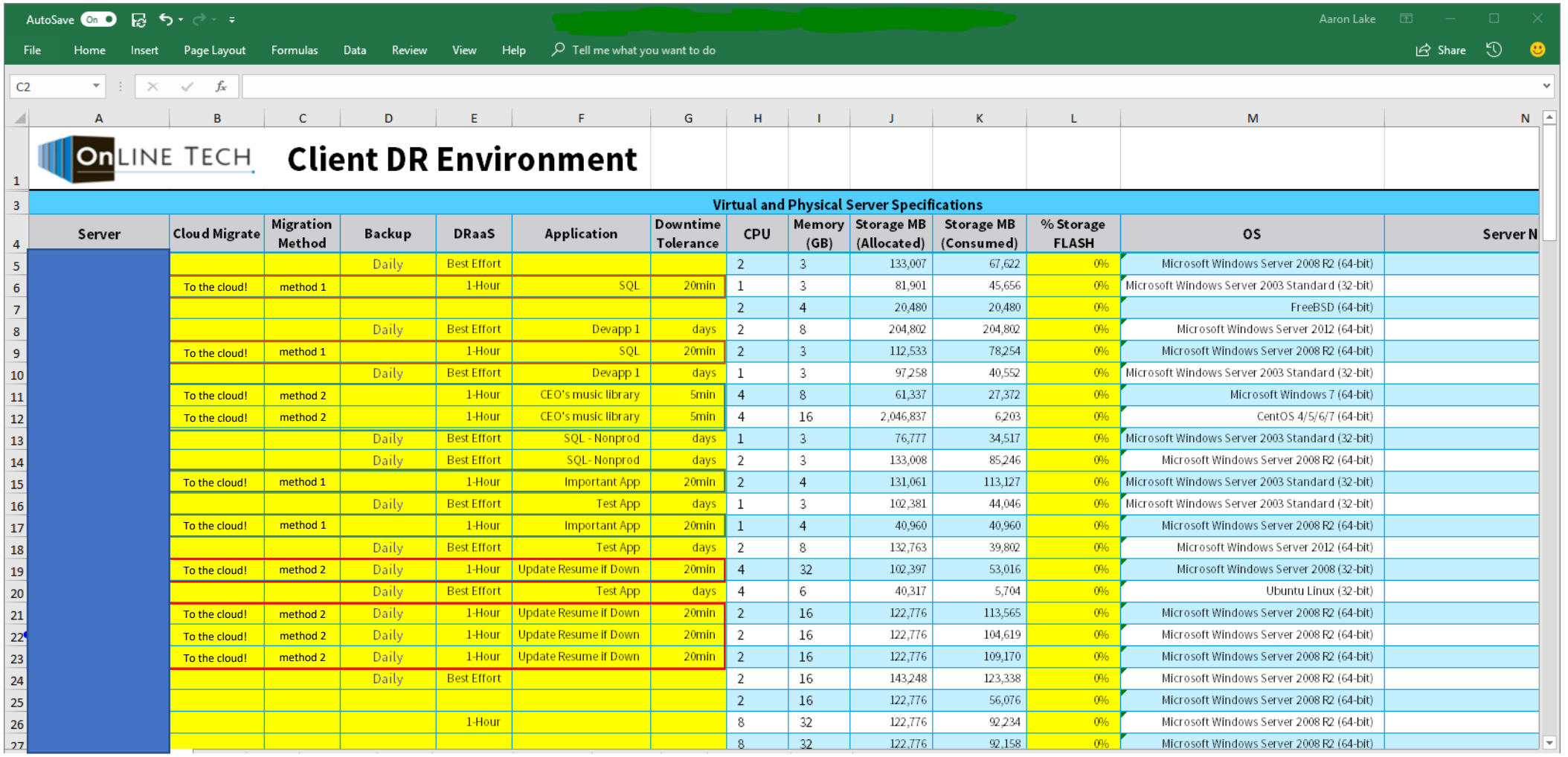
Backup is how you avoid complete data loss,

but it does NOT ensure continuity of operations

Disaster Recovery focuses on ensuring that

business applications and processes are always available

Migrate to the Cloud



Client DR Environment

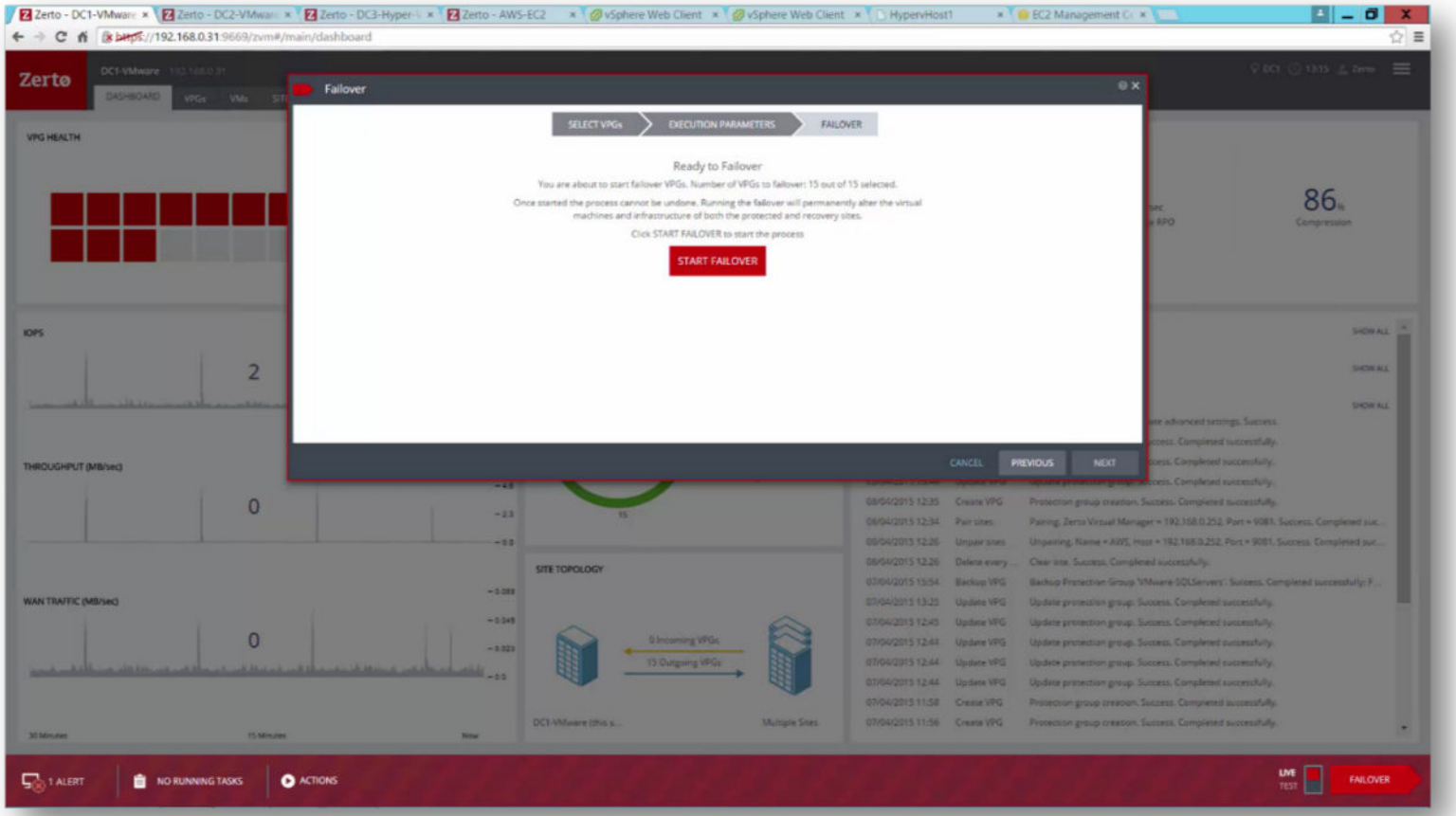
Virtual and Physical Server Specifications													
Server	Cloud Migrate	Migration Method	Backup	DRaaS	Application	Downtime Tolerance	CPU	Memory (GB)	Storage MB (Allocated)	Storage MB (Consumed)	% Storage FLASH	OS	Server N
			Daily	Best Effort			2	3	133,007	67,622	0%	Microsoft Windows Server 2008 R2 (64-bit)	
	To the cloud!	method 1		1-Hour	SQL	20min	1	3	81,901	45,656	0%	Microsoft Windows Server 2003 Standard (32-bit)	
							2	4	20,480	20,480	0%	FreeBSD (64-bit)	
			Daily	Best Effort	Devapp 1	days	2	8	204,802	204,802	0%	Microsoft Windows Server 2012 (64-bit)	
	To the cloud!	method 1		1-Hour	SQL	20min	2	3	112,533	78,254	0%	Microsoft Windows Server 2008 R2 (64-bit)	
			Daily	Best Effort	Devapp 1	days	1	3	97,258	40,552	0%	Microsoft Windows Server 2003 Standard (32-bit)	
	To the cloud!	method 2		1-Hour	CEO's music library	5min	4	8	61,337	27,372	0%	Microsoft Windows 7 (64-bit)	
	To the cloud!	method 2		1-Hour	CEO's music library	5min	4	16	2,046,837	6,203	0%	CentOS 4/5/6/7 (64-bit)	
			Daily	Best Effort	SQL - Nonprod	days	1	3	76,777	34,517	0%	Microsoft Windows Server 2003 Standard (32-bit)	
			Daily	Best Effort	SQL- Nonprod	days	2	3	133,008	85,246	0%	Microsoft Windows Server 2008 R2 (64-bit)	
	To the cloud!	method 1		1-Hour	Important App	20min	2	4	131,061	113,127	0%	Microsoft Windows Server 2003 Standard (32-bit)	
			Daily	Best Effort	Test App	days	1	3	102,381	44,046	0%	Microsoft Windows Server 2003 Standard (32-bit)	
	To the cloud!	method 1		1-Hour	Important App	20min	1	4	40,960	40,960	0%	Microsoft Windows Server 2008 R2 (64-bit)	
			Daily	Best Effort	Test App	days	2	8	132,763	39,802	0%	Microsoft Windows Server 2012 (64-bit)	
	To the cloud!	method 2	Daily	1-Hour	Update Resume if Down	20min	4	32	102,397	53,016	0%	Microsoft Windows Server 2008 (32-bit)	
			Daily	Best Effort	Test App	days	4	6	40,317	5,704	0%	Ubuntu Linux (32-bit)	
	To the cloud!	method 2	Daily	1-Hour	Update Resume if Down	20min	2	16	122,776	113,565	0%	Microsoft Windows Server 2008 R2 (64-bit)	
	To the cloud!	method 2	Daily	1-Hour	Update Resume if Down	20min	2	16	122,776	104,619	0%	Microsoft Windows Server 2008 R2 (64-bit)	
	To the cloud!	method 2	Daily	1-Hour	Update Resume if Down	20min	2	16	122,776	109,170	0%	Microsoft Windows Server 2008 R2 (64-bit)	
			Daily	Best Effort			2	16	143,248	123,338	0%	Microsoft Windows Server 2008 R2 (64-bit)	
							2	16	122,776	56,076	0%	Microsoft Windows Server 2008 R2 (64-bit)	
				1-Hour			8	32	122,776	92,234	0%	Microsoft Windows Server 2008 R2 (64-bit)	
							8	32	122,776	92,158	0%	Microsoft Windows Server 2008 R2 (64-bit)	

Building Your Disaster Recovery Strategy

Building Your Disaster Recovery Strategy

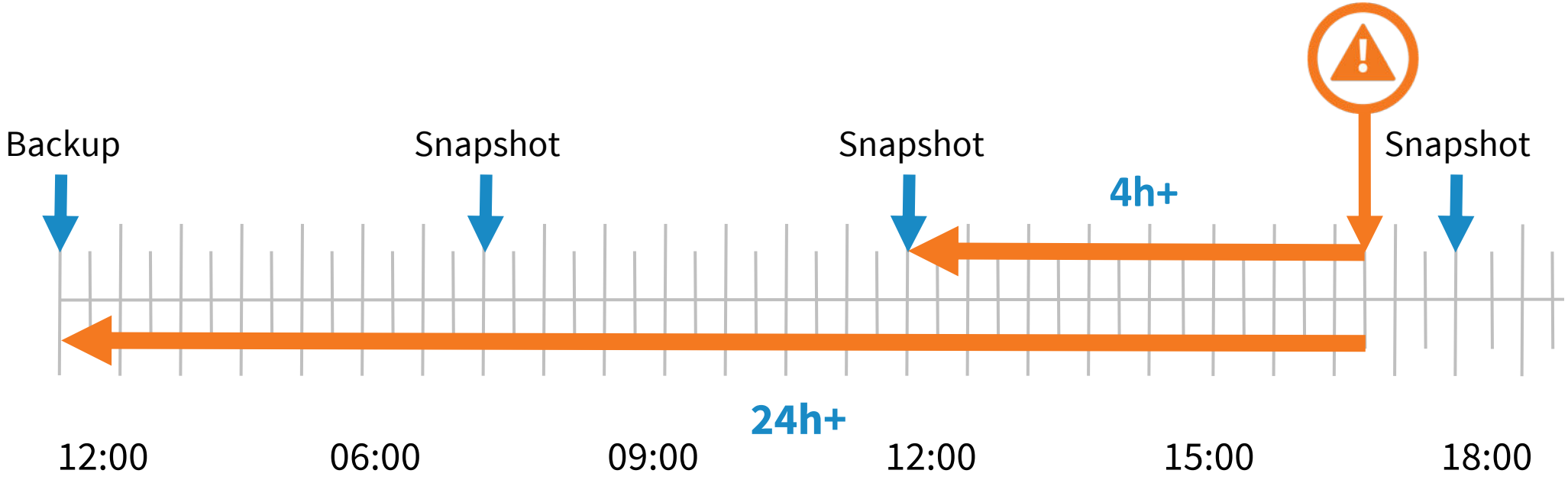
		Recovery Hypervisor	Recovery Hypervisor	Recovery Hypervisor
RPO	15 Min	VM1 App1, VM1 App2	VM1 App3	VM9 App1
RPO	1 Hour	VM2 App1	VM5 App1, VM2 App3	VM4 App3
RPO	4 Hours		VM6 App1	VM10 App1
RPO	8 Hours	VM3 App1	VM3 App2, VM8 App1	VM12 App1
RPO	12 Hours	VM2 App2	VM7 App1	VM5 App2, VM5 App3
RPO	24 Hours+	VM4 App1	VM4 App2, VM3 App3	VM11 App1

Live Failover – Easy as 1, 2, 3



1. Click “Failover”
2. Select Apps
3. Start Failover

Typical Data Protection Solutions



Power Interruption or Hardware Failure

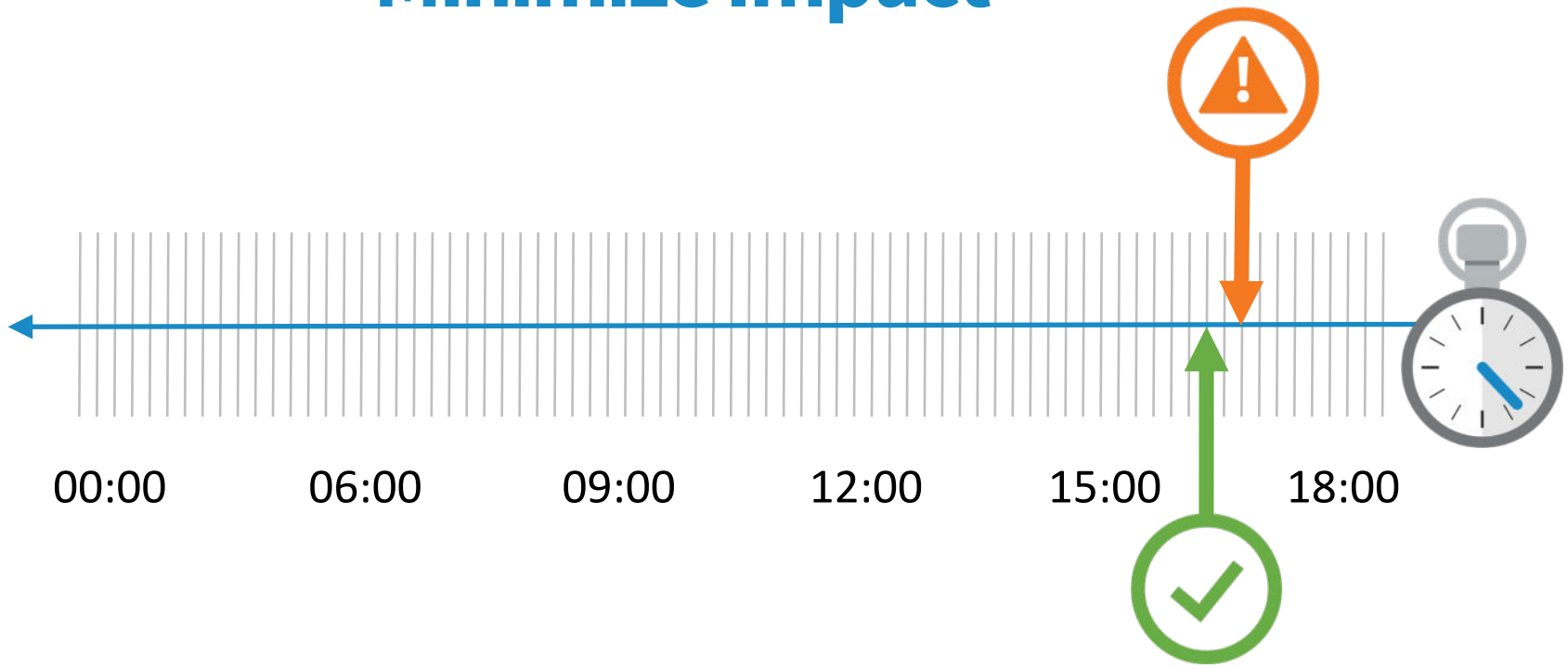
Cryptolocker Virus Infection

File deletion, Application or Human Error

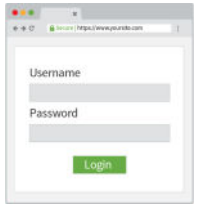
= Data Loss & Downtime

Minimize Impact

Recovery Points



Rewind and recover from any point in time



Sites

Apps

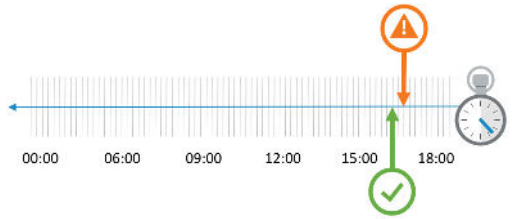
VMs

Files

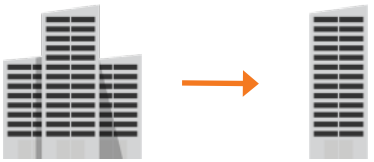
Resilience for Evolving IT™

1. **CHANGE** No lock-in, enable new tech

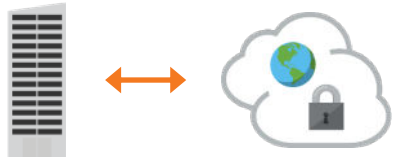
2. **PROTECT** Low RPOs/RTOs, testing, compliance



3. **CONSOLIDATE** Migrations, self-service



4. **EVOLVE** DRaaS to the Cloud

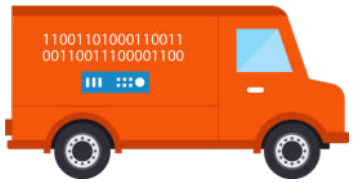


5. **SIMPLIFY** Single future-proof solution

Protect, Transform & Innovate

Continuous Availability

- Outages & Disruptions
- Ransomware Attacks
- Complete Data Protection



Workload Mobility

- Infrastructure Modernization
- Consolidations & Migrations
- Testing & DevOps

Multi-Cloud Agility

- Cloud Integration & Migration
- Multi-Cloud Hybrid Cloud
- Analytics Across Clouds

Disaster Recovery as a Service

Disaster recovery at the enterprise level

We take the complexity that comes with constructing, operating, testing and maintaining a disaster recovery infrastructure and make it simple with DRaaS. Recover in minutes, not hours.

> I just have a few clicks of a button, and I can access my server and get it up and running. It's hard for a lot of other providers to say, 'We'll get your servers back in an hour.' Zerto and Online Tech can do that.

Steve Werner, Director of Technology | **MILHAUS**

3 CLICK RECOVERY

SHORT RPOs, FAST RTOs

TRACK YOUR TESTING

Q & A

Secure Compliant Disaster Recovery

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