

Scope:

IT services are a critical element of an e-commerce site's business operations, mandating a Business Continuity & Data Recovery (BCDR) plan to ensure rapid and full restore in the event of a disaster. E-commerce site management supervises crisis response and recovery. This BCDR outlines the steps to recover from a disaster affecting Pampered Pets online website.

Recovery Objectives:

MTD: Maximum Tolerable Downtime (MTD) refers to the amount of time that a mission- or business-critical process can be interrupted without seriously harming the organization's mission (Smith, 2016).

RPO: Recovery Point Objective (RPO) is the utmost amount of data that could be lost after recovering from a disaster or failure before data loss becomes unacceptable to a company (Smith, 2016). It is usually measured in terms of time. Pampered Pets have advised there should not be data loss more than a minute.

RTO: Recovery Time Objective (RTO) refers to the appropriate amount of time following an interruption before business functions must be resumed (Horowitz, 2016). Pampered Pets have indicated that they need failover to happen in less than minute

WRT: Work Recovery Time (WRT) is the longest tolerated period for a DR team to confirm that infrastructure and data security are online and functioning (Smith, 2016).

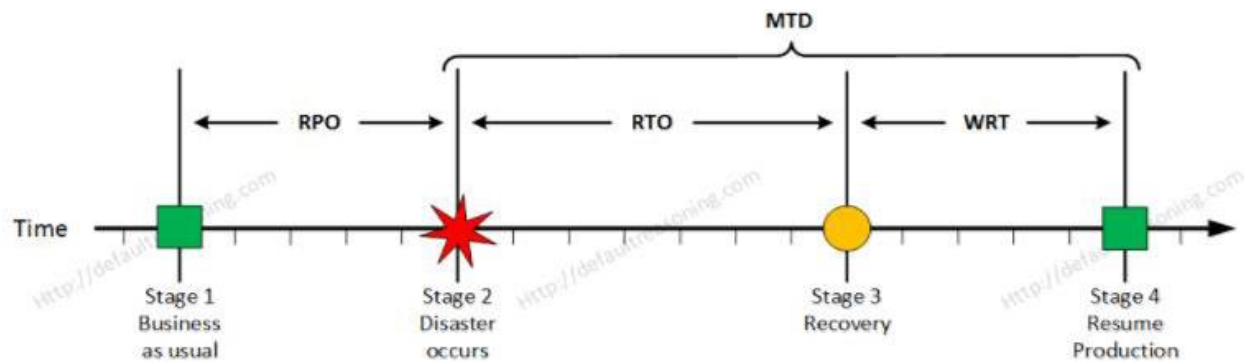


Figure 1: Description of RTO, RPO, MTD, and WRT Pictorially

Based on the RTO/RO requirements, we propose Active/Active Datacenter Amazon Web Services (AWS) SAAS solutions located in multiple sites across regions. Below are the solution's particulars:

The following factors must be considered while developing an Active/Active always available website competent of meeting the requirements of Pampered Pets:

- To connect global users, we require a worldwide network architecture.
- There should be no local state for services; they must be stateless, and the state should be shared between regions.
- Applications should utilize regional assets.
- DNS routing should be utilized to facilitate a variety of circumstances.

Global network infrastructure:

AWS provides a high-bandwidth, global network architecture that is powered by redundant 100GbE cables that round the globe. AWS Regions are connected to a private global network backbone, which delivers cheaper costs and more constant network latency across regions than the public internet.

Stateless applications:

When clients interact with an application, it does through a series of exchanges known as a session. In a stateless design, the server treats all client requests independently of previous requests or sessions, and no session information is stored locally. A stateless program therefore returns the same response to any end-user given the same input. Because any request can be handled by any available computing resources, stateless apps can scale horizontally (e.g., instances, containers or functions).

Use local resources and avoid cross-regional calls

It is crucial for apps to avoid excessive latency. ensure that resources are available locally for the program to use, hence optimizing latency Amazon S3 now has cross-region replication, which allows for automatic, asynchronous copying of objects across buckets in multiple AWS geographical areas.

DNS routing

A highly accessible and scalable Domain Name System (DNS), domain name registration, and health-checking web services are all provided by Amazon Route 53. It allows traffic to go through a variety of routing policies that can all be paired with DNS failover.

Possible Vendor Lock-In:

Microsoft Azure Cloud IBM Azure Backup and Disaster service professionals create custom solutions to help Pampered Pets achieve their disaster recovery and business continuity needs, as well as accomplish corporate compliance and plan for any future emergencies. Azure Backup and Disaster Recovery Services assist in achieving:

- High availability because of dependable recovery time objectives
- Disaster recovery drills without disrupting production environments
- Maintain consistency across all apps during failover owing to trustworthy data

Advantages of Using an Online SAAS Solution Provider Like Azure

- Dedicated NOC Support
- Highly Secure Infrastructure
- Rapid response and emergency assistance
- White Label Support