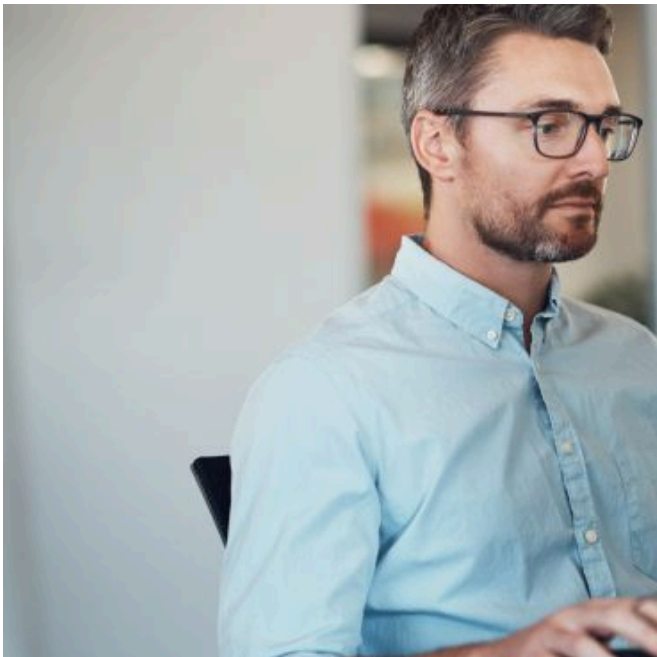


# What is disaster recovery



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Security

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## What is DR?

Disaster recovery (DR) consists of I  
designed to prevent or minimize da  
resulting from catastrophic events-



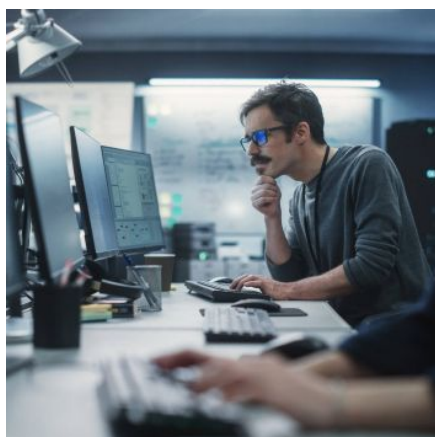
failures and localized power outages, natural disasters, emergencies, criminal or military attacks, and more. Many businesses—especially small- and mid-sized—lack a reliable, practicable disaster recovery plan. This lack of protection from the impact of significantly disruptive events can be costly.

Infrastructure failure can cost as much as \$100 million. Application failure costs can range from \$100,000 to \$1 million. Businesses cannot recover from such losses. They may not re-open after experiencing a disaster, and they may fail within the first year after the crisis. IBM helps you reduce these risks.

Disaster recovery planning involves strategic planning, technology, and continuous testing. Maintaining a disaster recovery component of disaster recovery planning, but not testing, does not constitute a full disaster recovery plan.

Disaster recovery also involves ensuring that your systems are available to maintain robust failover and failback. Offloading workloads to backup systems so that your experiences are disrupted as little as possible is a key part of original primary systems.

Read our article to learn more information about [backup and disaster recovery planning](#).



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# Business continuity

Business continuity planning creates system your enterprise will be able to maintain essential as quickly as possible in the event of a crisis is the subset of business continuity planning infrastructure and systems.

## Disaster recovery p

## Business impact analys

The creation of a comprehensive disaster re analysis. When performing this analysis, you scenarios that can then be used to predict t if certain business processes were disrupted was destroyed by fire, for instance? Or an ex

This will allow you to identify the areas and critical and enable you to determine how m functions could tolerate. With this informati for how the most critical operations could b

IT disaster recovery planning should follow planning. If, for instance, your business con representatives to work from home in the at hardware, software, and IT resources woulc

## Risk analysis

Assessing the likelihood and potential consi also an essential component of disaster rec ransomware become more prevalent, it's cr cybersecurity risks that all enterprises confi specific to your industry and geographical lc

For a variety of scenarios, including natural threats, sabotage, and employee errors, you the overall impact on your business. Ask you

- What financial losses due to missed sale generating activities would you incur?

- What kinds of damage would your brand customer satisfaction be impacted?
- How would employee productivity be impacted?
- What risks might the incident pose to your business?
- Would progress towards any business in

## Prioritizing applications

Not all workloads are equally critical to your business, and downtime is far more tolerable for some than others. Prioritize your systems and applications into three tiers based on how long you can have them be down and how serious the impact would be.

1. **Mission-critical:** Applications whose failure would threaten the survival of the organization.
2. **Important:** Applications for which you cannot tolerate extended downtime.
3. **Non-essential:** Applications you could tolerate being down or do without.

## Documenting dependencies

The next step in disaster recovery planning is to document the hardware and software assets. It's essential to map out interdependencies at this stage. If one software component will be affected?

Designing resiliency—and disaster recovery built into your architecture is the best way to manage application dependencies in today's **microservices**-based architectures. When other systems or processes are down, you need a clear situation to recover from, and it's vital to understand how to develop alternate plans for your systems in the event of a strike.

# Establishing recovery time point objectives, and recovery consistency objectives

By considering your risk and business impact objectives for how long you'd need it to take you could stand to use, and how much data

Your recovery time objective (RTO) is the maximum time to restore application or system functioning for

Your recovery point objective (RPO) is the maximum time recovered in order for your business to resume businesses, losing even a few minutes' worth of data. In other industries may be able to tolerate longer

A recovery consistency objective (RCO) is essential for continuous data protection service to ensure no inconsistent entries in business data from recovery. It's more tolerable in disaster recovery situations, despite complex application environments.

## Regulatory compliance

All disaster recovery software and solutions must satisfy any data protection and security regulations they adhere to. This means that all data backup and recovery must meet the same standards for ensuring data integrity in primary systems.

At the same time, several regulatory standards exist to maintain disaster recovery and/or business continuity. For instance, the Sarbanes-Oxley Act (SOX), for instance, requires all publicly held companies to maintain business records for a minimum of five years (including neglecting to establish and test a disaster recovery plan) in significant financial penalties for companies that fail to comply.

## Choosing technologies

Backups serve as the foundation upon which disaster recovery is built. In the past, most enterprises relied on tape backups, maintaining multiple copies of their data and restoring from the most recent backup.

In today's always-on digitally transforming world, enterprises often cannot achieve the RTOs necessary to maintain business continuity. Architecting your own disaster recovery solution requires the capabilities of your production environment to support staff, administration, facilities, and other services. Organizations are turning to cloud-based backup and Recovery-as-a-Service (DRaaS) providers.

## Choosing recovery site location

Building your own disaster recovery solution requires defining recovery objectives. On the one hand, a copy of your data should be geographically distant enough from your headquarters to not be affected by the same seismic events, environmental disasters, or your main site. On the other hand, backups should be as close to your main site as possible to reduce recovery time. Backups from the cloud are often faster than those located on-premises at the same distance, even greater across longer distances.

## Continuous testing and updates

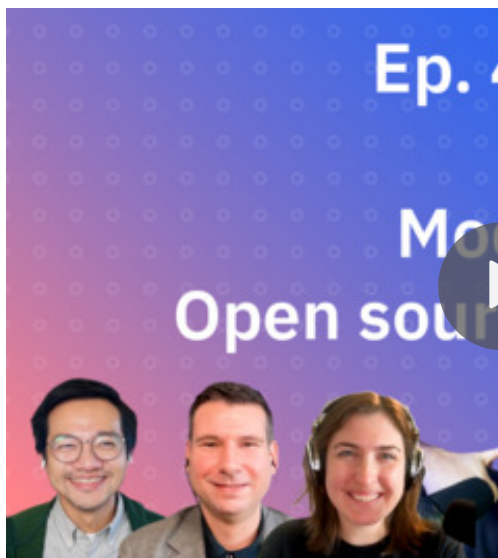
Simply put, if your disaster recovery plan has not been tested, it is not a plan. All employees with relevant responsibilities should participate in a test exercise, which may include maintaining the plan for a period of time.

If performing comprehensive disaster recovery testing is not possible, you can also schedule a "tabletop" exercise. These are discussion-based procedures, though you should be aware that they may reveal anomalies or weaknesses in your DR process that were previously undiscovered application interdependencies.

As your hardware and software assets change, your disaster recovery plan gets updated as needed. It is important to revise the plan on an ongoing basis.

The IBM Knowledge Center provides an [example](#) of a disaster recovery plan.

Mixture of Experts | 31 January, episode 4



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# Disaster Recovery-as-a-Service (DRaaS)

Disaster-Recovery-as-a-Service (DRaaS) is a managed IT service offerings available today. It typically includes RPOs in a service-level agreement (SLA) that meets application recovery expectations.

DRaaS vendors typically provide cloud-based solutions that offer significant cost savings compared with maintaining resources in your own data center. Contract terms typically include maintaining failover capabilities plus the price of the disaster recovery situation. Your vendor will be responsible for configuring and maintaining the failover environment.

Disaster recovery service offerings differ from traditional DRaaS offerings as a comprehensive, all-in-one solution.

services ranging from single application res  
cloud. Some offerings may include disaster  
others will charge an additional consulting f

Be sure that any enterprise software applica  
public cloud providers that you're working v  
application performance is satisfactory in th  
failover and failback procedures have been

## Cloud DR

If you have already built an on-premises dis  
challenging to evaluate the costs and benef  
monthly DRaaS subscription instead.

Most on-premises DR solutions will incur co  
maintenance and administration, software,  
upfront capital expenditures involved in the  
need to budget for regular software upgrades. Because your DR solution must remain  
compatible with your primary production environment, you'll want to ensure that your  
DR solution has the same software versions. Depending upon the specifics of your  
licensing agreement, this might effectively double your software costs.

Not only can moving to a DRaaS subscription reduce your hardware and software  
expenditures, it can lower your labor costs by moving the burden of maintaining the  
failover site to the vendor.

If you're considering third-party DRaaS solutions, you'll want to make sure that the  
vendor has the capacity for cross-regional multi-site backups. If a significant weather  
event like a hurricane impacted your primary office location, would the failover site be  
far enough away to remain unaffected by the storm? Also, would the vendor have  
adequate capacity to meet the combined needs of all its customers in your area if  
many were impacted at the same time? You're trusting your DRaaS vendor to meet  
RTOs and RPOs in times of crisis, so look for a service provider with a strong reputation  
for reliability.

Read "[Disaster Recovery as a Service \(DRaaS\) vs. Disaster Recovery \(DR\): Which Do  
You Need?](#)" for a comparative overview of both solutions.

What is DR? Business continuity planning Disaster recovery planning Disaster Re



Report

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Data breach costs have hit a new high. Get essential insights to help your security and IT teams better manage risk and limit potential losses.

[Read the report](#)



## Resources



## Assessment

## Cyber Resiliency

## Assessment

## Summary

## Explore IBM Storage Defender capabilities

The Cyber Resiliency Assessment is conducted through a no-cost, 2-hour virtual workshop with IBM Security experts capabilities provided by IBM Storage Defender to help your organization build and deliver data resilience.

[Book a no-cost assessment](#)



[Read the summary](#)



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## The quickest way to protect sensitive data and ensure business continuity

Discover how IBM Storage Defender SaaS Essentials Edition can accelerate your approach to data resilience.

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Webinar

## Navigating the regulatory landscape and the impact on data protection and storage

Hear experts from IBM and Continuity Software discuss strategies for simplifying and accelerating your data resilience roadmap and the actions you should take to address the latest regulatory compliance requirements.

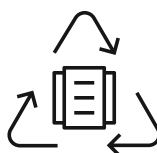
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