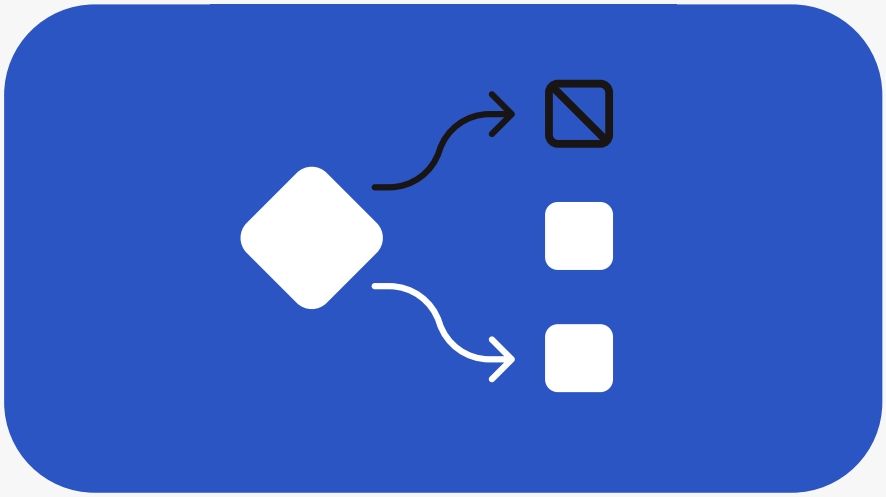
EGUIDE

Guide to failover

Failover is a necessary process for achieving high availability and reducing negative impacts on customers when there is an outage caused by anything from a cyber attack to a natural disaster. This guide will cover the definition of failover, processes for failover testing and execution, different types of failover, and common challenges and solutions.



What is a failover?

A **failover** is the process used to transfer control from one location or site to another when there is a fault or failure in the first location. Failover can apply to on-premises, cloud and hybrid systems and can be done manually or automatically.

Failover forms part of the larger **disaster recovery plan** for recovering IT systems and applications during a disaster event or outage.

Failover testing

Failover testing is the process of validating your system's ability to fail over successfully and become available. Failover testing involves validating access controls and configurations, performing tests in a controlled environment, and reviewing metrics for continuous improvement.

Different kinds of failover

Depending on your organization and individual system and customer needs, different types of failover may be right for you. Here are some examples of different ways failover can be used:

Manual vs automatic failover

Failover can be initiated manually, where a person switches their application to the backup infrastructure and verifies it functions correctly. Increasingly, organizations are using automatic failover, using software scripts to automate switching an application to the backup infrastructure when an outage is detected.

Failover and back

Failover and failback is usually used in the context of testing to examine the functional aspects of failover. In this case, an application or system is failed over in the test and failed back in the same test.

Fail and stay

Fail and stay refers to failing (during a test or incident) to the alternate site, staying there and running production load for a period of time. Many organizations are moving more towards fail and stay and away from failover and failback, as using failover and back in testing doesn't prove that the alternate site's infrastructure can handle production load.

Failover challenges

Below are some common challenges faced by organizations in planning, testing and managing failovers:

The amount of **time** it takes to prepare for a test

Tests don't match what would be performed in an incident, so they don't provide readiness or confidence for an actual disaster event recovery

Mismatched environments where the alternate site does not have enough capacity to run production load (at all or for an extended period of time)

Simulation of loss of a public cloud region is **hard and complex**

Steps to performing a failover

1. Transfer data to the alternate site at appropriate intervals to ensure that recovery point objectives can be met.

2. Transfer production workloads to the recovery site, although some changes can occur as operations continue.

3. After any failure-related disruption and data losses are resolved (and any known threat is mitigated) the primary production site can resume operations. At this point, the failback operation is executed - production workloads return from the recovery site and interim data transfers to the primary system. However, with fail and stay becoming the norm this step is no longer necessary, as there is no longer really a “primary” and “secondary” site and any site can act as the primary one.

Cutover for failover

Cutover offers a comprehensive solution to address your failover challenges and streamline the overall process.

The benefits of using Cutover for failover

- Codify and automate failover as part of IT DR runbooks
- Analyze, iterate and audit your IT DR and failover strategy
- Optimize failover with automation
- Execute failover tests within recovery time objectives (RTOs) and recovery point objectives (RPOs)
- Make better decisions during a failover event
- Save time during execution and post-event reporting

CASE STUDY

Cutover runbooks make failovers simple

Here's one example of how Cutover helped one of our customers improve their failover testing and execution:

THE PROBLEM

Highly manual and uncoordinated failover procedures

A financial services company had to perform data center failovers every six months involving around 50 applications that supported their loans and fees services. They were having a number of issues with this:

- Simulated failovers were performed around once a week but not consistently
- Highly manual processes
- Lack of coordination across 14 teams
- Planning and execution tools were separate, making preparing for the test arduous
- Post-event reporting was manual and time consuming, with high risk of human error

THE SOLUTION

Automated runbooks and comprehensive dashboards for data center failovers

Cutover provided a central planning and execution hub for simulated and real failovers. Cutover enabled the team to:

- Kick off an automated runbook at the start of an event and be notified when their task was ready to execute
- Integrate with existing process and execution tools, so all the information in those systems could be accessed without leaving the platform
- Integrate with communications tools to improve visibility and collaboration
- View and measure recovery time actuals (RTAs) against RTOs
- Download the task list from Cutover at the end of the event and import the files straight into Fusion, reducing post-event reporting from a three to four-hour process to five to ten minutes.

THE OUTCOME

Faster recovery

- Cutover was ten times better than the previous manual way of working
- The team saved three hours per event on post-event audit
- They now have a version-controlled source of truth for the failover runbook and the ability to review and approve the entire process within Cutover

[Read the case study in full →]

About Cutover

Cutover's Collaborative Automation SaaS platform enables enterprises to simplify complexity, streamline work, and increase visibility. Cutover's automated runbooks connect teams and technology, increasing efficiency and reducing risk in IT, cloud and cyber disaster recovery. Cutover is trusted by world-leading institutions, including the three largest US banks and three of the world's five largest investment banks.

Contact us or **schedule a demo** today to learn more.

cutover