The ability to back up and restore data is critical in any organization. You need high-quality backups not only to restore deleted or overwritten data, but also in many cases for legal requirements you might have in your country (e.g., related to keeping tax or customer records).

We will begin this chapter by discussing disaster recovery planning (DRP) and business continuity management (BCM), giving you a grounding in these concepts. We will show you how to securely copy data from a remote host, whether it is on your network or on the other side of the world. We will then introduce you to the backup server Bacula and show you how to use it to save and restore your files. Also using Bacula, we will demonstrate how to back up and restore a database. Finally, we will discuss the Bat console, which is a GUI interface for Bacula.

By the end of this chapter, you should be able to do the following:

- Be aware of the requirements needed for DRP and BCM.
- Use the rsync command to securely copy data from one host to another and use a script to automate that process.
- Install and configure a backup server called Bacula.
- Manage your backups and create jobs within Bacula.
- Restore files to your host using Bacula.
- Configure and use the Bat console.

We’ll start off with a general discussion on DRP.

Disaster Recover Planning

Of course, we all hope that nothing disastrous happens to our business, but it’s important to prepare for any number of scenarios, just in case. There are two main categories of disaster: man-made disasters and natural disasters. An e-mail server going down for a day, causing vital, time-sensitive business matters to be missed, is a man-made disaster related to human error or mechanical malfunction that can have a process of recovery associated with it. On the other hand, an earthquake that destroys your office is a natural disaster that would require a completely different recovery response. Both scenarios can be planned for, depending on the likelihood of them occurring.
Disaster recovery planning (DRP) is all about recognizing, managing, and mitigating risk. It is part of an overarching process called business continuity management (BCM), or making sure a business can continue in the face of unknown adversity to at least a predetermined minimum level. BCM covers various aspects of your organization and should detail timelines that your business agrees upon for the restoration of particular services.

The following are questions to consider when formulating your organization’s BCM and DRP strategy:

- Can we predict the most likely disruptions our business could face? What are the steps required to recover from them? What are timelines for expected recovery?
- What are the costs associated with mitigating the risks for and recovering from each potential event?
- Do we need a co-location where we can move our business?
- Do we need to rent extra equipment, such as power generators, in any potential crisis scenario?
- Who are the people and organizations that need to reached/communicated with in the event of disruption to the business? How should the disruption be communicated to the public?
- In the case of a large-scale catastrophic event, what are the points that determine whether continuation of the business can be achieved? Losses can quickly accumulate if key infrastructure or business assets are disrupted.

Developing BCM and DRP plans can be a complex process. Within your organization, you should have a BCM plan that contains the findings of risk analysis, business impact analysis, and crisis management investigations that can be signed off on by the major business units. Even small businesses can benefit from a semiformal arrangement, though the resources to develop a full BCM may not be required. For further information on BCM and DRP, we recommend the following resources:


In this chapter, we’re going to focus on the process of backing up and restoring your data, which should be part of your organization’s BCM and DRP plans. The next section covers backup strategies.