

How does Backup Protection work

Backup Protection is provided using software from R1Soft, a leading provider of backup services to hosting providers.

Key Components

Backup Protection operates using some key components:

- **The Backup Protection agent** - a small piece of software installed onto each server to be backed up. The agent manages the process of determining which data needs to be backed up from the server and communicates directly with the 100TB backup servers over our internal network.
- **Backup Servers** - where your backed-up data is stored. These are physically separate from your servers being backed up, ensuring that if your servers suffer from a problem you have a physically separate copy of your data available to restore from.
- **Disk Safe** – your data and each available recovery point will be stored in a Disk Safe on a backup server. The Disk Safe is essentially a database which is used to store your backup “blocks” and the deltas, or differences between them.

Block Level Backups

Backup Protection operates using block-level backups, a highly efficient backup method that bypasses the file system and reads data directly from the disk or volume. Block-level backups provide advantages over traditional file backup technologies, including the speed of completing a backup operation and a drastic reduction in disk and network I/O, which means there is a lower impact on the performance of your servers while backups are being run.

Virtual Full Backups

There are several different approaches to taking server backups, most of which trade off the frequency of taking backups, the impact on the server being backed up, and the ease with which restores can be run.

Backup Protection runs on the principle of ‘virtual full backups.’ This means that a full backup of all data on the server is only ever taken once, at the point that the first backup is run. Each subsequent backup only needs to backup any changes in the data at the block level. A process of synchronization and merging of blocks ensures that regardless of your data retention policy, each restore point that you retain can provide a full restore of your server at that point in time. This process minimizes the impact on your server and network performance and maximizes the use of your storage quota.